

CHAPLINS' PATENT STEAM ENGINES AND BOILERS.

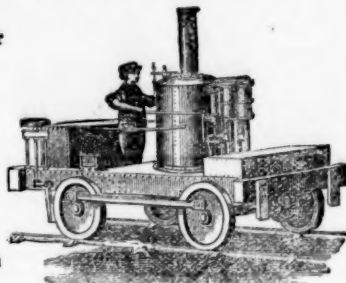
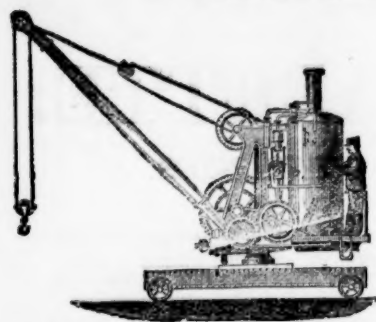
PRIZE MEDAL, INTERNATIONAL EXHIBITION.

STEAM CRANES,

Portable or Fixed, for Railways, Wharves, &c., for unloading COAL, BALLAST, &c., 10 to 30 tons.

LOCOMOTIVES,

6 to 27-horse power. For Steep Inclines and Sharp Curves. Gauge from 2 feet upwards. Geared to draw very heavy weights in proportion to their power, and SPECIALLY SUITABLE FOR



Contractors' Work, Railway Sidings, Coal Mines, Quarries, Gasworks, &c.

These Cranes were selected by H.M. Commissioners to receive and send away the Heavy Machinery in the International Exhibitions 1862, 1871, and 1872.

The Agricultural and General Engineering Company (Limited),

LATE WIMSHURST, HOLICK, AND CO., ENGINEERS.

CITY OFFICES:—2, WALBROOK, LONDON, E.C.

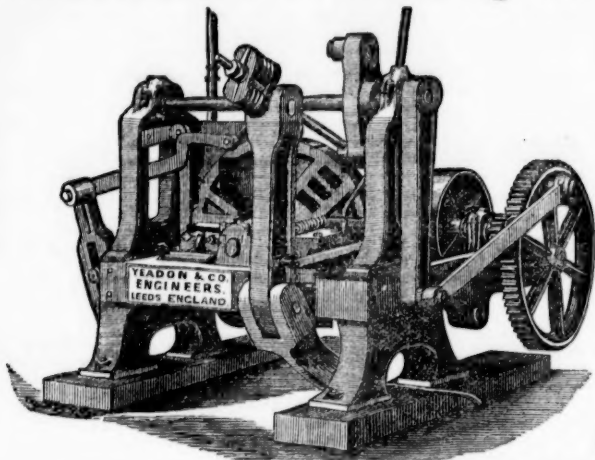
WORKS:—REGENT'S CANAL DOCK, 602, COMMERCIAL ROAD EAST.

PATENT BRIQUETTE MACHINE.

GREAT SAVING NO WASTE COAL.

NO COLLIERY SHOULD BE WITHOUT.

These Machines utilise small coal or coke by making it into Briquettes or blocks of compressed fuel at the rate of 36,000 per day. The cost of preparing, mixing, and making is under One Shilling per ton. The Briquettes sell readily for Locomotives, Household, or other purposes. Full particulars on application to



YEADON AND CO.,

LEEDS,

ENGINEERS AND CONTRACTORS,

FOR EVERY DESCRIPTION OF PLANT FOR

Collieries, Mines and Brickworks.

TESTIMONIALS

Messrs. Yeadon and Co., Leeds. CHARBONNAGE DE BERNISSART, PRES PERUWELZ (BELGIUM), JANUARY 4TH, 1878. I continue to be perfectly satisfied with the work performed by the two patent Briquette Machines as well as with that of the Steam Engine, Mixer, &c., which you supplied a few months ago for the manufacture of compressed slack Briquettes, and that I can recommend them as being the best machines I know of, after having carefully studied all the Briquette Machines constructed at home and abroad.

SOCIETE DES CHARBONNAGES REUNIS DU RIEU DU COEUR ET DE LA BOULE. QUAREGNON (BELGIUM), SEPTEMBER 13TH, 1879.

Messrs. Yeadon and Co., Leeds. A. FRANEAU, Managing Director. We are entirely satisfied with the erection and working of the two Briquette Machines, as well as the Steam Engine and Mixing Apparatus.

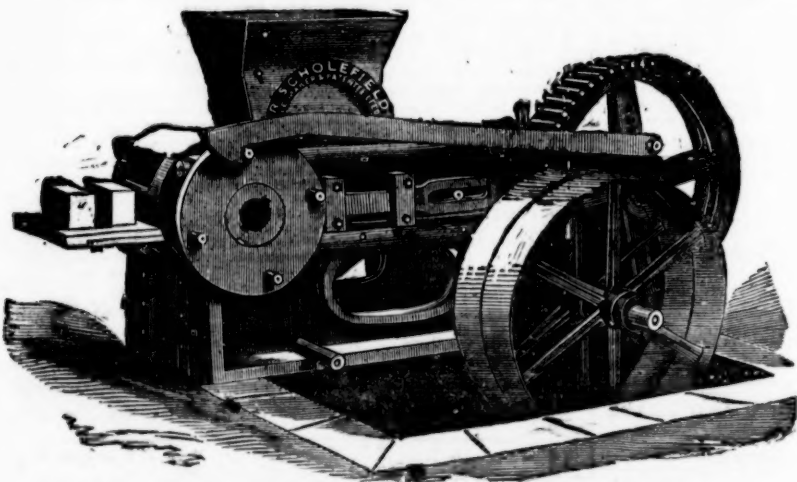
Messrs. Yeadon and Co., Leeds. CHARBONNAGE DE BERNISSART, PRES PERUWELZ, JANUARY 24TH, 1879. I continue to be highly satisfied with the Briquette Machines which you supplied in 1877. They do their work very well, and produce the Briquettes very regularly, and of a good quality.

Messrs. Yeadon and Co. SOCIETE HOUILLERE DE VENDIN-LEX-BETHUNE, PAS-DE-CALAIS, DECEMBER 2ND, 1880. I have the honour to inform you that the Briquette Machines work very well. The Briquettes are very well made. I am highly satisfied with your workmen, who have done their work very well.

The undersigned, Civil Engineer of Mines, Chevalier of the Legion of Honor, Consulting Engineer to the Mines de Vendin-lexto, Bethune, Pas-de-Calais, certifies that the Briquette Machinery for making Briquettes of Coal, supplied by Messrs. Yeadon and Co. to the above Company is working to their entire satisfaction.

E. LISBET.

R. SCHOLEFIELD'S LATEST PATENT BRICK-MAKING MACHINE.



R. S. begs to call the attention of all Colliery Owners in particular to his PATENT SEMI-DRY BRICK MACHINE, and the economical method of making bricks by his patent machinery from the refuse that is taken from the pits during the process of coal-getting, which, instead of storing at the pit's mouth (and making acres of valuable land useless) is at once made into bricks at a very small cost, by R. S.'s Patent Brick-making Machinery. If the material is got from the pit hill, the following is about the cost of

production, and the hands required to make 10,000 pressed bricks per day:—

2 men digging, each 4s. per day	8 0
1 man grinding, 4s. 6d. per day	4 6
1 boy taking off bricks from machine, and placing them in barrow ready for the kiln, 2s. per day	2 0
1 boy greasing, 1s. 6d. per day	1 6
1 engine-man, 6s. per day	5 0
1 man wheeling bricks from machine to kiln, 4s. per day	4 0

Total cost of making 10,000 pressed bricks £15 0, or 2s. 6d. per 1000.

(SETTING AND BURNING SAME PRICE AS HAND-MADE BRICKS.)

N.B.—Where the material can be used as it comes from the pit, the cost will be reduced in digging. As the above Machinery is particularly adapted for the using up of shale, bind, &c., it will be to the advantage of all Colliery Owners to adopt the use of the said Brick-making Machinery.

THE MACHINES CAN BE SEEN IN OPERATION AT THE WORKS OF THE SOLE MAKER AND PATENTEE DAILY.

SCHOLEFIELD'S ENGINEERING & PATENT BRICK MACHINE WORKS. KIRKSTAL ROAD, LEEDS.

FOREIGN MINING AND METALLURGY.

The intelligence received with respect to the Belgian coal trade is not particularly favourable. Coalowners now consider the season lost so far as household coal is concerned, and find it impossible to maintain rates for household coal. Industrial coal is in good request, but the production responds fully to the demand. Quotations for coke have been well maintained at Brussels, German coke having shown firmness. Wages are being reduced at some of the collieries in the Liège basin, and work has even been suspended in some cases on Mondays. Such measures as these are far, however, from being general. The German coal markets have been maintained with firmness, but they have not, at the same time, exhibited an upward tendency. It appears that the imports of coal into Germany declined last year 105,636 tons, while the exports of coal from Germany increased last year 221,780 tons. Similarly the exports of coke from Germany increased last year 81,468 tons, while the imports of coke into Germany fell of last year 67,798 tons. The total imports of coal into Germany amounted last year to 1,953,131 tons, of which 1,448,655 tons came from England, and 309,785 tons from Austria and Hungary. The exports of coal from Germany amounted last year to 7,458,266 tons, of which 2,481,062 tons went to Holland, 2,058,027 tons to Austria and Hungary, 981,529 tons to France, 562,646 tons to Belgium, 455,635 tons to Switzerland, and 373,274 tons to Russia.

Great activity continues to prevail in the St. Dizier district (France), production being carried to its utmost limits without reaching the desired maximum even then. There are complaints of want of water, the beds of the rivers being as low as they usually are in summer. Under these circumstances steam has to be employed as actively as possible in order to compensate for the partial inactivity of hydraulic motors. This state of things promises to be of some duration after a winter which has been unattended by snow, and also almost unaccompanied by rain. Quotations have maintained an excellent tone at St. Dizier. Coke-made iron has realised 8l. 8s., and in some cases 8l. 12s. per ton. Mixed iron has been held at 9l. 4s. per ton. The demand has been generally well sustained. The foundries have been in full work, orders for iron for building and mechanical purposes being numerous. Merchants' iron has made 8l. 8s. per ton at Paris. The revenue of the Parisian Company for Lighting and Heating by Gas amounted to 341,589l., showing an increase of no less than 12½ per cent. as compared with January, 1881. There appears to be practically no limit to the revenue—and by consequence to the prosperity—of this very thriving concern. The company's 10l. paid shares received a dividend of 2l. 19s. 10d. per share for 1880, or at the rate of nearly 30 per cent. per annum, and a still higher dividend seems probable for 1881.

The Belgian iron trade has continued to present a quiet tone. A few small current orders have come to hand; but, upon the whole, purchasers have maintained an attitude of reserve. Forgemasters have still some orders on hand, and they may be enabled in consequence to exhaust the patience of clients contemplating business; but every week which passes will render it more difficult for them to maintain their ground. In other words, so long as work does not absolutely make default prices are not particularly likely to fall; but if the demand falls off concessions in regard to prices must become general. It is announced that there will shortly be an adjudication of locomotives for the Belgian State Railways, but nothing is said about contracts being let for more rolling stock, although it is expected that in October trucks will once more run short upon the Belgian State system. The condition of the German iron trade appears to be still favourable. Employment is abundant, and orders do not fall off, so that prices show continued firmness. At the same time, customers are not so pressing as they were some time since, as many of them have satisfied their requirements for the present. Quotations have not varied, and they have even been supported with firmness as regards immediate deliveries; in the case of some orders requiring prompt execution slightly higher terms have, indeed, been insisted on. The Union-Gießerei of Königsberg has obtained a contract at Breslaw for ten goods locomotives, at 1923l. per engine.

The statistics of the imports of coal into France during last year show a diminution against the preceding year, as might be expected from the statistics of the exports of Belgian coal, showing a considerable falling-off in the consignments to France, which we published recently. The total of the imports from all countries into France last year was 8,106,761 tons, against 8,451,129 tons in 1880, and 7,662,385 tons in 1879. The exports from France, on the other hand, showed a continuous increase, the totals being (1881) 724,885 tons, (1880) 546,455 tons, and (1879) 513,938 tons. The imports of coke showed a continued increase, the total for 1881 being 1,110,974 tons, against 943,416 tons in 1880 and 760,529 tons in 1879; while the exports of coke last year declined from 40,905 tons in 1880 to 24,514 tons. Turning to the details relating to coal, we find that the increased French output was chiefly in the Pas-de-Calais district, the total for that department being 5,320,616 tons, or 476,293 tons more than in 1880. On the other hand, the output from the pits of the department of the North, 3,668,733 tons, showed a decrease of 32,856 tons. The total output from the two departments was 8,989,349 tons, and the net increase against the preceding year 443,437 tons. It is in the nature of the case that this increased activity in the French coal mining industry should affect the Belgian coal export trade rather than our own from the proximity of the Belgian and French coal districts. Moreover, Belgium is the largest exporter of coal to France, the volume of her consignments of coal to that market being about 30 per cent. greater than that of our coal exports thither.

THE AGE OF GOLD IN CHILI.

From the time of the Incas the enormous auriferous resources Chili have been generally recognised, and almost every historian of and traveller in South America has given prominent notice to the region, yet those resources are still but partially developed, and for generations the mass of the inhabitants have been in absolute poverty. This is no doubt attributable in a great measure to the fact of Catholicism being the prevailing religion, for it is observable that wherever that system is practised ignorance and misery rule supreme. Industrial prosperity can scarcely exist under it, and it is precisely in those countries where it has least influence that social progress is greatest. Spain has long since sunk into nothingness, and her former South American colonies are in no better position. Ireland has grown worse and worse in proportion as influence has been given to a servile and half-educated priesthood; and Italy, after having been sunk into the greatest depths of crime and misery under similar influence, is recovering in proportion as the control of Catholicism is being broken down. The display of greater tolerance in Chili will have an equally favourable effect on the community, and it may be hoped that industries which have long been neglected may be revived. Chilian gold mining should be amongst the earliest revivals, for Rosales, in his History of Chili, has described it as "una de las provincias mas opulentas de oro que se han descubierto en la America." And this is confirmed by the French traveller, Frezier, who writing in 1716 remarks that it may be said generally that the whole country is very rich, though the inhabitants are very poor in money, because instead of working their mines they content themselves with the business they do in hides, tallow, dried meat, hemp, and corn.

There now seems to be a disposition to offer greater encouragement to miners, a circumstance which adds much to the interest of Mr. Mackenna's work on the Age of Gold in Chili. "La Edad del Oro en Chile o sea una demostracion historica de la maravillosa abundancia de oro que ha existido en el pais, con una reserba de los grandes descubrimientos argentiferos que lo han enriquecido, principalmente en el presente siglo, a algunas recientes escusiones, a las regiones auriferas de Catapilco i cuadradas de Alvarado i Malcar. Por B. Vicuna Mackenna. Santiago: Cervantes. Valparaiso: J. Purves, Calle Esmeralda," which forms a large volume of about 500 pages. It appears that Mr. Mackenna's object in writing the book has been to call the attention of his countrymen to the necessity of an alteration in the Mining Laws—assimilating them to

those of Australia and of California, in order that the auriferous wealth of the country, which unquestionably exists, may be explored, and produce the same grand results that have followed the gold discoveries in the countries mentioned.

Mr. Mackenna explains that the title of his book is more historical than statistical, more demonstrative than industrial, more elegant than economic and speculative, sufficiently explains his object, whilst the variation of but one Spanish letter explains the nature of his discourse and his argument. He does not say "la edad de oro en Chile," but "del oro"—not the golden age in Chili, but the age of gold. He maintains that the colonial age was certainly not the "edad de oro" which the poets have sung about and the historians imagined concerning this distant country. Quite the contrary; that was the age of dejection, of ignorance, of catastrophe, of shame, and of weeping. But at the same time it was undoubtedly the "edad de oro," for as the conqueror, Pedro de Valdivia, said the entire country was nothing but "a mine of gold," although every grain of it cost his subjects, by the inclemency of the weather, the war, and the conquest "cien gotas de sangre i el doble de sudor"—100 drops of blood and 200 of sweat. Gold was very abundant in these ages of gold; in fact the soil appeared to be impregnated with the precious metal, and in Mr. Mackenna's opinion it really was so, but, as in the present day, it was disseminated in molecules so small and difficult of amalgamation and recovery that it was only by a total change in the processes individually and collectively that great results, especially in the virgin soil of Araucania, could be looked for. But it is indeed not drops of sweat, much less drops of blood, which are required for the working of the gold on a large or on a small scale in these days of liberty and of moral and mechanical progress, but drops of engineering condensed into steam, or hydraulic power applied to colossal winding machinery, destined to replace the weak and dejected slave of the Encomiendas and the slow and fatiguing mill which grinds the auriferous quartz during the rains only, and at the rate of but 3 oz. or 4 oz. of powdery gold per day.

Commencing with an account of gold in Chili in the time of the Incas Mr. Mackenna maintains that the primitive Chilenos were unacquainted with the use, the value, and the working, the art of working it being learned from the Peruanos, and that even these employed it solely for ornamentation, and not as a medium of exchange. He refers to the imponderable accumulation of gold by the Incas, from the production of the mines of Peru and Chili, to the hawser of Huascar and the chain of the Jesuits of Santiago, and to the riches of the Temple of the Sun, and of the mines of Carabaya, mentioning numerous subsequently ascertained facts by way of verification. With regard to gold in Chili in the time of Don Pedro de Valdivia the author refers to Marga-Marga, Quilaocoya, La Imperial, Osorno, and Nillarsca, and he devotes an entire chapter to the gold crisis in the seventeenth century, dealing with the gold resurction in the eighteenth century in the following chapter. After pointing the favourable auspices under which the new century commenced for the gold miners of Chili he explains that the general poverty produced by the catastrophes of the seventeenth century led to active work, and consequently to discoveries, and he refers in turn, and among other things, to the gold mine of Tilti, in 1713, to the important gold discoveries in Copiapo, in 1706, to the travels of Frezier in Copiapo and La Serena, mentioning that the scientific opinions of Frezier as to the formation of gold correspond with the modern theories, to the antiquity of the Cangalla, to the mines of Lampagui, and the reason of their abandonment, to the relative poverty of quartz mines as compared with gold placers in Chili and in other parts of the world, to the discovery of the mines of Petorca and Ligua, and to the abundance of gold in the neighbourhood of Santiago, inducing an application for the establishment of a mint there in 1730, and Mr. Mackenna considers that the Santiago mint would not have been brought into existence either for silver, copper, or the "equivocacion del rei," had there not been the gold. Much interesting information is given concerning this mint, and it appears that the maximum production was reached in 1800 and 1810, and that during the century more than 2000 quintals (100 tons) of gold was coined—"la enorme suma de 2250 quintales, o sea una verdadera montaña de oro acumulada durante un siglo." There are chapters on gold in the North of Chili (Atacama and Coquimbo) in the eighteenth century, and on gold in the central region (Del Bronce al Chivato) during the same period, whilst the succeeding chapter treats of Chili considered as the first gold producing country of America and of the world before the discovery of California. The two succeeding chapters are of great practical interest, since they deal with the questions of the waste and loss of gold in reduction in Chili, and of the decay of the age of gold in that country. California and Chili are then compared, and there are excellent accounts of the auriferous gravels of Catapilco, first prospected by Dr. Barnes, and of the quebradas of Malacara and Alvarado, in the province of Valparaiso.

But the matter referred to in Mr. Mackenna's volume which is the most likely to have a beneficial influence on the future of the gold mining industry of the country is that reserved for the last chapter, which treats of Chilean gold legislation, and the necessity for its reform. Mr. Mackenna fully recognises the excellency of the Mining Code of 1875, but very properly contends that it has many defects, the principal of which he has carefully pointed out, and the amendments which naturally suggest themselves are likely to be speedily carried out, for Mr. Vicuna is a Senator of the Republic, and his motion for a reform of the Mining Laws was carried unanimously in July last, and was when the book left Chili (December last) in committee, so that it may be hoped that ere long Chili will have a mining code of so complete and liberal a character that her mines will be fully and profitably developed, and thus benefit the entire community. The volume is in every respect worthy of reading and study.

THE CHANNEL TUNNEL.

The public have now the opinion of Count Moltke that from a military point of view neither England nor France have anything to fear from the construction of the Channel Tunnel; but, although speculators are credited with a dangerous amount of credulity, it may safely be said that comparatively few of those individuals who have any money to lose are sufficiently imbecile to suppose that even 1 per cent. interest can be hoped for from investment in the Channel scheme, and this being the case the opinions of Count Moltke, opposed though they may be to Sir Garnet Wolseley, will have little effect in attracting capital for the projectors. The fact probably is that this military question has been raised in the hope of distracting attention from the more important question whether any profit is likely to be realised from the scheme. It can easily be shown that as a commercial enterprise the result must be disastrous—it is even doubtful whether any railway line whatever in any country earns sufficient upon any 25 miles of its length to pay 1 per cent. upon a capital of 10,000,000, which is the estimate for the Channel Tunnel. Taking the length of the tunnel at 25 miles a net profit of 4000l. per mile per annum would be required to pay 1 per cent. per annum upon the capital, and it may safely be said that there is not a railway in the country which yields one-tenth of this amount, so that dividends at the rate of 2s. per year upon each 100l. invested would be immensely more than could reasonably be expected.

It is urged that there would be little difficulty in flooding the tunnel were invasion probable, and it may be admitted that as the sea would not be far distant such a remedy for protecting the tunnel might readily be resorted to, but the effect would be the practical annihilation of the tunnel, since the tunnel would contain about 100,000,000 cubic feet of water, all of which would have to be lifted at great cost, to say nothing of the irreparable damage that would be done to the tunnel by letting in the water at all. But all this is assuming that the tunnel can be made within the estimate, and that the flooding and the pumping have become necessities. The great question, however, is whether the scheme is practicable, even assuming that sufficient imbeciles could be found to provide the cash. Will such men as Professors Prestwich, Bonney, Morris, Daubeny, or any other who has made geology a study, give an instance of a geological formation which has hitherto been seen in which a tunnel with ordinary gradients could be driven for 20 miles without encounter-

ing faults which would be fatal to the Channel Tunnel scheme, and will they at the same time state whether it is or is not a fact that the exploratory works in Kent have been carried in a direction which would avoid the faults to be met with in driving the tunnel—that is to say that the exploratory works are not in the line of a parallel to that which the projected tunnel is proposed to take. These are matters which should be well understood by the public before they are asked for cash, and it is probable that just as there would have been no Franco-Prussian war had not the bulk of the French people supposed that Berlin was "just the other side of the Rhine," so there will be no attempt to construct the channel if the probable obstacles and impossibility of obtaining dividends be truly and honestly placed before the community.

In connection with the original Channel Tunnel scheme, for it should be mentioned there are rival projects which adds to the improbability of the work ever proving remunerative, it is stated that Sir John Hawkshaw has confirmed the concessions and arrangements recently effected by a deputation representing the Channel Tunnel Company with the Corporation of Dover. The company are very anxious to avoid a collision with the local authorities in any works they propose to carry out in so far as they would affect the town, and with this object in view several interviews have recently taken place at Dover between the Town Council and a representation of the company, at which various objects have been urged by the Council against such provisions or omissions in the plans which were calculated to operate against the interests of the borough. The result of these interviews has been highly satisfactory. The general idea of the plan upon which the railway is proposed to be constructed is to make the terminus in the centre of the town at Biggin-street, which will necessitate the acquiring of a considerable batch of property in the principal thoroughfare. The distance between this point and the place where the tunnel will commence is probably not more than 400 or 500 yds. Maison Dieu-road, the only main road over which the line will pass, will be crossed in an oblique direction, and instead of passing under the Castle, as has been supposed, it will gradually bend round in a northerly direction in order to avoid the fortifications, round which it will thus make a detour.

The tunnel will then proceed at a gradient of 1 in 80—the same gradient as the South-Eastern scheme—in the direction of Farehole, St. Margaret's Bay, near the South Foreland, where it will leave the English shore, taking a course beneath the Channel to meet the heading already commenced at Sangatte on the French coast. The boring between St. Margaret's and Dover will be commenced at the former place, where drainage works will be constructed, and powerful pumps provided for the water it is expected will find its way into the heading in passing through the hills in the neighbourhood of Dover. The presence of a moderate amount of water in the soil, it is said, would greatly facilitate the progress of the work in course of construction. Satisfactory tests were made at the South Foreland when this company applied for powers a few years ago. Amongst the concessions which the company have agreed to make to the town is the construction of a ventilating shaft on the high land between Dover and the South Foreland. A new road is to be opened near the Castle, and several improvements are to be made in the arches which would be required in the town. In the event of the company obtaining the consent of the Government to their scheme, and provision having to be made for the South Eastern Railway Company to run over their line, the course which will most probably be adopted will be to connect the town by a tunnel from Shakespeare's Cliff, passing under the Western Heights.

THE ELECTRIC EXHIBITION AT THE CRYSTAL PALACE.

The Electrical Exhibition at the Crystal Palace was formally inaugurated, on Saturday, by the Duke and Duchess of Edinburgh, who were accompanied by the Prince of Waldeck-Pyrmont. After their reception by the Chairman of the Crystal Palace Company, Mr. McGeorge, and other directors, with Major Flood Page, the general manager, the illustrious visitors were conducted through the several parts of the Exhibition and building, and appeared well pleased with the effect. The opening was altogether a brilliant success. The practical adaptability of electricity to the purposes of illumination has been so satisfactorily demonstrated that the question is no longer whether the electric light can compete with gas, but which is the most economic system to use for a given purpose. The decision in each particular case will, doubtless, vary much with the particular circumstances and with the judgment of the intending user; and the Electric Exhibition at the Crystal Palace affords the best possible opportunity for judging of the comparative merits of the several systems. The first system met with upon entering the building from the Low Level Station is the Brush, and the fact is at once evident that the lighting has been much overdone. In the absurd effort to eclipse everyone else the reverse result has been obtained—the only conclusion likely to be drawn by those unacquainted with the Brush light being that it requires just thrice the number of Brush lamps to produce the effect seen in other parts of the Palace with other systems. There can be no question that if two-thirds of the lamps in the corridor and staircases were extinguished the effect would be better than at present, whilst the increased economy is obvious. It should be mentioned that it is the affiliated enterprise—the Hammond Electric Light and Power Supply Company—that has the control of this range of illumination. With regard to cost, the entire plant for half a dozen lamps, of 2000-candle power each, would be but little over 400l., and the subsequent cost of working would in most cases not exceed, including proportion of attendant's wages, interest, and redemption of capital, 1d. per lamp per hour.

In connection with electric lighting there is an exhibit in the North Nave which is especially worthy of examination, since it is really the earliest form of the machine which has rendered the general use of the electric light practicable. This is the dynamo machine exhibited by William Ladd at the Paris Exhibition in 1867; it was the first machine with two armatures, one being employed to excite the electro magnet, the other to produce electric light, heat, &c. Ladd's magneto machine of 1866 was the first machine with circular magnets. It is these principles which have been developed until that close approach to perfection which has been attained in the Brush system has been reached. The progress of the Brush system has been marvellous, for already more than 10,000 lamps are in daily use in the United States, and several thousands in this country, the majority of these being of 2000-candle power, which appears to be the most convenient size. The economy ascertained by experience at the South Kensington Museum has already been referred to in the *Mining Journal*, and the continued use of the light proves that very ample allowance has been made for wear and tear and depreciation.

The calculations officially published are the result of nine months' observation, carried out by Lieut.-Col. Festings, R.E., one of the assistant directors of the Museum, and in consequence of the highly favourable results attained the lighting has been extended to other portions of that Museum, and also to the Jermyn-street Museum. These carefully prepared statistics show that the Lord President's Court (138 ft. long by 114 wide and 42 ft. high), which is now lighted by 16 Brush electric lamps, was lighted until nine months ago by gas, the consumption of which amounted to 4800 cubic feet per hour, which at the rate of 3s. 4d. per 1000 cubic feet amounts to 16s. per hour, or since the Museum is lit for 700 hours in the year, to 560l. per annum. The working expenses of the 16 Brush lights as at present employed, which are driven by a No. 7 Brush dynamo machine and a Ransome's engine, including the cost of carbons consumed, oil, &c., coal, and wages, amount altogether to 3s. 10d. per hour, as compared with 16s. per hour paid for gas, or a total yearly cost of 134l. 3s. 8d. as compared with the 560l. per annum paid for gas. In making a fair estimate on the annual cost, interest on the capital outlay (324l. for engine, dynamo machine, and lamps), and allowance for depreciation and wear and tear, must be deducted, which, taking the outside figures of 100l., shows a gross cost per year of 234l. 3s. 8d. for lighting by electricity, as against 560l., the cost of gas previously consumed, or a yearly saving of 325l. 16s. 4d. Moreover, the Electric light unites many additional advantages, such as better light, cleanliness, greater safety, and the preservation of the interior decorations.

And just as the Brush system appears to be that which will form the basis of any further improvement so the Maxim lamp, although less talked about than some others of that class, appears to be unquestionably the best of the incandescent lamps. The Maxim lamps are not well represented at the Crystal Palace, although they are seen to some advantage in a small cloister near the Roman Courts. The Electric Light and Power Generator Company exhibit in this part of the building their Weston arc-lamps as well as their Maxim lamps. In the Weston lamp a current of electricity is brought by a shunt to a simple electro-magnet at the top of the lamp, which raises the upper carbon and forms the arc. The lamps are worked by Weston machines, of which one driven by 10-horse power will supply the current for 10 lamps of 1500 candles each. In the Maxim incandescent lamp the carbon is M-shaped, giving a solid appearance to the eye. The dynamo-machine which works these lamps is governed by another machine, called the Maxim regulator—an automatic arrangement for adapting the current to the number of lights in use, thus saving the waste of energy caused by resistance coils. These lamps, hung in opaque drop-shaped globes beneath the groining of the medieval cloister have a most beautiful effect, and a stand of them with opalescent shades arrayed as buds and blossoms forms a light of very attractive appearance. The Swan lamp is a modification of the Maxim, the chief difference being in the shape of the carbon, that of Swan being convoluted. Mr. Swan claims that they are cheaper than gas, since, by burning 1000 ft. of gas in an engine, he can produce in electric light more than the effect of the gas burnt in the ordinary way.

In the Edison exhibit there is the same fault as with the Hammond Company's treatment of the Brush. So many burners are massed together, that although the rooms in which they are used are certainly well lighted, doubt is naturally raised as to what individual lamps are doing, and as to the economy. Mr. Edison's exhibits are to be found in the concert room and entertainment court, both of which are exceedingly bright. The carbon used in the Edison lamp is bamboo, and the light given is much whiter than in some incandescent lamps, caused, perhaps, by a greater pressure being used. The concert room is lighted by a large central chandelier and festoons of lamps round the gallery; and in the entertainment court the lamp is shown adapted to all domestic purposes, with stands for tables, brackets, and chandeliers, as billiard lights, and in many other forms, which can be used with more than the facility of gas, since they can be lighted by simply turning the switch. It is stated that 10 lights of 16 candles can be worked with one-horse power. The principle of the Edison system of lighting is to establish a central station for the supply of an area of about one square mile, the wires being conducted along the streets in iron pipes, from which service mains diverge at junction boxes to the houses, and passing through metres, are taken in pipes to the various floors, where insulated wires, covered with a moulding of wood, proceed to each light. In every circuit a weak point is made, where the wire fuses if the circuit becomes over-heated. The advantages claimed for the system are perfect immunity from fire and accident, and simplicity fully equal to the service of gas.

The British Electric Light Company exhibit their 3000 candle Brookie lamps, with admirable results, in the north nave. Ten or twelve of these lamps may be hung on a circuit, and a 10-horse power engine will generate through the Gramme machine sufficient current for eight of them. When the lighting is complete the company will have three circuits of eight Brookie lamps each, and one circuit of André lamps, as well as a number of incandescent lights arranged in ornamental forms in the Egyptian and Italian courts. Siemens Brothers have an excellent display of their lights over the crystal fountain, the current being supplied by Siemens dynamo and alternate current machines. The Siemens lamps can be worked by continuous or alternate currents, and when several are burnt in one circuit an automatic arrangement is applied to shut off any lamp that may fail. The Crompton system is to be seen in the Centre Transept and Chinese Court, there being in the former by six lamps of 3000 candles, on two circuits, and the latter by two lamps, fitted with lanterns and reflecting screens. A large lamp of 10,000 candles is also to be placed in the centre of the building. The Crompton lamps are worked by Burgin machines, one to each circuit of three lights. By this system a lamp of 4000 candles absorbs 23-horse power; two lamps of 5000 candles each 5-horse power; and six lamps of 3000 candles 8½-horse power, working with Burgin machines. In this lamp, as in that of Mr. Serrin, clockwork is used to work the carbons, operated by a small electro magnet, and the feed being constant and regular. The Pompeian House is lighted by Messrs. Rowatt and Fyfe, whose lamps were described in the *Mining Journal* at the time of the last Wimbledon meeting, where it was shown in the encampment of the London Scottish Rifle Volunteers. The system used is that of Pilsen (Piette and Krizik's patent), and the construction of the lamp is remarkably simple and very ingenious. There are two coils one above the other fixed to a tube, the top coil being wound with thick wire, whilst the bottom coil is wound with fine wire, and forms a shunt to the electric arc; passing down through the centre of these two coils is a double coned iron core, thick in the centre and tapering off at each end; one carbon is attached to the bottom of this iron core, whilst the other is fixed to the bottom of the lamp. A most interesting feature of this lamp is the action of this iron core. In a position of this core between the two coils the action upon the core is the same, and as the core is set to strike the arc in proportion to the electric current, so it always maintains the arc in the same proportions. The light is very satisfactory, and is said to be economic.

On Wednesday the first of a series of lectures which the directors of the Crystal Palace have organised in connection with the Exhibition, and which cannot fail to add materially to the interest that will be felt therein, was delivered in the concert room by Professor Sylvanus Thompson, of Bristol, the subject chosen being "Electric Currents: What are they?" The professor began with an enumeration of the multifarious services now rendered to mankind by the electric current. Yet, though its applications were endless, it was remarkable how little was known of its intimate nature. To understand the true nature of electric currents, or even of electricity itself, necessitated a wide range of study, the more careful because of the great variety in the different properties and phenomena. Electricity might remain in the form of "charges" on the surface of bodies, or might flow through their substance in continuous "currents." Yet it was not a material fluid, and the term "electric fluid" was now only used by those who knew nothing about modern investigations in the science. Nevertheless, a study of the various properties of electricity, the attractions and repulsions it set up, the sparks to which it gave rise, the chemical decompositions it effected, the magnetic actions it produced, all led toward a certain theory, only to be grasped when all these diverging lines were traced back to their logical origin. It was a matter of congratulation that so many eager and able scientific men were now devoting themselves to this youngest of the sciences, more especially as it was pre-eminently a British science.

Almost every great discovery in Electricity has been made by Englishmen. From the time of Dr. Gilbert, who founded the science in 1600, Englishmen had been foremost in electric discovery. Stephen Grey discovered that electricity could be made to flow in currents through wires; John Canton discovered the influence exerted by electricity at a distance; Benjamin Franklin, the inventor of the lightning rod, was a Briton, though resident in Philadelphia; Humphry Davy, the discover of the electric light; Spencer, the inventor of electro-plating; Faraday, the greatest experimentalist in electric science that ever lived, to whose fundamental discoveries modern dynamo-electric machines may be directly traced; Ronalds, Cooke, and Wheatstone, the fathers of the electric telegraph, and Swan, the inventor of the carbon-filament lamp, were all Englishmen, while Graham Bell, the perfecter of the telephone, was British born. Not that some great discoveries had not come from other lands. Cuvier, a Dutchman, discovered the Leyden jar; Volta, an Italian, discovered the voltaic cell; Oersted, a Dane, discovered the relation between magnets and electric currents; Reis, a German, invented the first rude telephone by which articulate speech was transmitted; and Planté, a Frenchman, invented the storage-battery or accumulator. After referring to the relation between the power of electric currents and the power that is spent in producing them, Professor Thompson

spoke of the certainty that in the near future all heavy mechanical work would be done by electric currents in the place of steam, a theme which will claim further attention in a subsequent lecture.

With reference to the question of the production of electric currents in voltaic batteries, the lecturer referred to the discovery that such batteries were reversible, and that in this reversibility lay the newly-discovered power of storing or accumulating electric energy in cells which could be charged and discharged at pleasure. The magnetic, thermal, and physiological properties of the electric current were illustrated experimentally, the lecturer remarking with much emphasis that the mistake of confounding physiological with medical or remedial effects led to the gross imposition of the quacks and rogues who deal in so-called magnetic appliances, and disgrace alike the sciences of electricity and medicine, while knowing nothing of either. The nature of electric currents was reverted to, and an outline was given of the theory of Clerk Maxwell that all electric phenomena were due to actions going on in the thin medium that fills the whole universe—the ether—vibrations of which are light and heat, the accumulations of which are electric charges, the streams in which are electric currents, and which, where it was made to spin round in vortices or whirlpools, gave rise to magnetic attractions. In conclusion, the lecturer commented on the immense importance of the revolution now beginning in the substitution of electric machinery for steam-engines, and urged that if England desired to reap the benefit of this impending reorganisation of the methods of mechanical production, if she desired that her workmen should rise to the immense future before them, she must not lose an hour in providing them with an education in matters electrical, seeing that a knowledge of electric currents and their properties will be of far more practical importance than a knowledge of any other branch of science. If technical education did not come in any other way it would be forced upon us by the practical fact that electricity is to be our servant in the place of steam and of coal.

ASIA MINOR MINING COMPANY.

A report, dated from the mines, Lidjessy, Jan. 31, has been received from the manager. It is in tabular form, but the subjoined embodies all the details:—

DISTRICT I.—Main Adit Level: The rock here is becoming harder and harder, a cross-cut was commenced (towards north) on Dec. 12, for the purpose of getting into softer ground. The latter was met with after having driven 1½ ft. The driving on the soft will begin on Jan. 1. Level 1 (Arthur).—Rise to Level 2:—About 40 ft. from bottom of this level the lode has also been struck, showing about 2½ to 3 tons of ore per fathom. At the cross-cut the lode has not yet been reached.

Level 2 (Hamburg).—Driving north at footwall of lode at No. 13: At cross-cut the lode was pierced at the end of December, but contained no ore. The driving north of lode recommenced on Jan. 1. Driving on course of lode: The lode at this point during the month averaged from 1½ to 2 tons of ore per fathom. In the rise to Level 3, the ancient workings having been reached on Dec. 9 the work was stopped here on that day, arrangements being made for sinking a shaft from the burrows of Level 3. As to the total stopings in Level 2: At the stopings in this level the ore averaged this month from 2 to 2½ tons to the fathom. Level 3 (Petri).—About 22 feet from the commencement of this cross-cut (about 1200 ft. from the shaft's entrance) three veins, showing an average of 10 inches pure ore have been struck Dec. 13, but the examination of the lode by this cross-cut continues. The assay of this ore shows 65 per cent. of lead and 60 per cent. silver per ton (see List Assays No. 5). The importance of this find is increased by the fact that from this point of the mine up to Level 4 (Savalan) a distance of 164 ft. in height by 188 ft. in length nothing has been known hitherto. As to the total stopings in Level 3, at the two stopings the ore averaged 1½ tons per fathom. The arrangements for sinking the winze to reach Level 2 from the burrows of Level 3 were finished on Dec. 25, and sinking commenced on same day. The communication between Levels 2 and 3 is expected to be established by the middle of February.

Level 6 (Durfield A.).—Total stopings in this level: The ore in this level averaged 3½ to 4 tons to the fathom. Driving north of lode: On driving west at a length of 36 ft. the lode was reached on Dec. 22, showing 18 in. mostly pure ore. Assay No. 14 showed 72 per cent. of lead and 51 ozs. silver to the ton. This is of great importance, considering that this part of the mine (extending from Level 4 (Savalan) to Level 9 (Michael) a height of 348 ft.) has hitherto not been known.

Level 7 (Hadji Harons).—Total stopings in this level: Average about 5 tons ore to the fathom. In the Level 8 (Genoese) they are driving north of lode. Level 9 (Michael) they are also driving north of lode.

DISTRICT II (Papa Sawa Lode).—Level 1—Driving on the lode: Appearance irregular this month.

Level 2.—Driving on the course of the lode: This level is situated on the lode between Levels 1 and 3 (see sketch), whilst the Level 2, referred to in the November report, is west of Level 3, and not being worked at present.

	Work.	Estimate of produce	Ore ready for shipment.
September, 1881.....Tons	182	40½	and 3½
October	310	77½	20½
November	462	118½	21½
December	512	128½	27
Total	1466	365½	72½

B.—Surface Work: The repairs of buildings, &c., have been going on with slight interruptions, caused by the weather. General Remarks: The production in December (26 working days of 24 hours each) amounted to 512 tons work estimated to contain 123 tons of dressed ore and 25 tons of picked ore, besides 2 tons produced by old dressing floor—in all, 155 tons, against 136 tons in November. The production hitherto has principally been obtained out of Levels 4 (Savalan), exclusive of shafts 6, 7, and 8, and brought to bank out of Level 4, where it has been stored on the burrows. As these ore thus got mixed up an assay has been made under No. 7. The Savalan burrow being now completely blocked up this work, beginning with January, will by means of the rolling shaft now ready, be forwarded to the burrow of the Level 3, and stored there for the present. This will enable the old dressing-floor to treat the suitable portion of this work. The production out of Savalan shaft and Level 3, and 1 will not be forced until the new dressing-floors are at work, as mentioned in our previous reports. Our sale of produce takes place to-day, the quantities being 230 tons of lead and 100 tons of blende. We have been making good progress with the repairing of the reservoir until the last few days; the weather has greatly impeded us.—W. H. WILLIAMS.

THE VAN MINES—MONTHLY REPORT.

March 2.—As under please find my monthly report:—The 120 west has been extended 4 fathoms west of the 150 cross-cut, by the side of the main lode. We have had occasional strings of lead ore, but the main lode appears to be productive, as seen by an occasional blast to try it. When we have driven far enough we shall again cross-cut to prove its full width and value. We are making good progress in stripping the lode to full width in this level, and timbering the level ready for stoping. The produce continues variable; on the average during the past it has been about 28 ozs. per cubic fathom. In the 105 east end we are crossing south into the flookan in order to get into better ground; the lode itself is hard for driving, and we can get on very much faster in the flookan, and try the lode occasionally by cross-cut. I am not able to report a discovery in the 16 east as yet, although the indications continue very favourable; in fact, quite as encouraging as stated in my last report. The only change in the stopes is that the eastern stope in the 69 is finished, and the men are removed to the western stope in back of the 105. The rise in the back of the 120 west is still suspended, but we shall resume it shortly.—Van Hill: We have cross-cut 5 fathoms through the lode, which continues very strong and masterly, and showing good spots of lead, blende, and copper, but not to value, only as an indication. On the western side of the hill we have found a lode containing good spots of lead, but owing to the severity of the weather, and the place being very exposed, we have not been able to do much upon it as yet.—Surface: Everything at surface is going on regularly. Our sale of produce takes place to-day, the quantities being 230 tons of lead and 100 tons of blende. We have been making good progress with the repairing of the reservoir until the last few days; the weather has greatly impeded us.—W. H. WILLIAMS.

LA PLATA MINING AND SMELTING COMPANY.—This company has been making numerous improvements, looking toward the more economical and successful working of the mine owned by the company at this point. During the past two weeks Manager Smith has been engaged in constructing an elevated tramway from the mouth of the tunnel to the north side of the gulch, a distance of several hundred feet. At the terminus of the tramway, and alongside the road, a substantial ore-house has been erected. The work will soon be completed, when the teamsters will save a considerable distance of bad road, and also the labour of handling the ore, as the new bins are provided with chutes. The result will not only prove a great convenience to the ore haulers, but a marked saving to the company. The La Plata Mine is looking quite well, showing large stopes of lead ore. For some time past the mine has yielded about 60 tons of ore per day.—From the "Mining Index," Colorado, Feb. 11.

SOUTH DARTON.—The general meeting of the shareholders in this mine will be held on the 8th inst., which it is hoped will be well attended. The property is a very valuable one, and like others

of the same kind would pay well if the shareholders would take greater interest in the working of it.

CARNARVONSHIRE GREAT CONSOLS.—We are glad to learn that the sampling for February is 30 tons. The prospects are rapidly improving, whilst the stopes are now producing, in the aggregate, 10 tons of lead per fathom, and when the shaft is down about 9 ft. further another level will be put out to cut the lode, and make available the ore ground and the level above. This operation will probably occupy, with the sinking and driving, about 10 to 12 weeks, and when accomplished, will probably place the present company on an independent footing, and enable the mine to speak for itself.

SILVER HILL.—By reference to the mining reports it will be seen the Silver Hill tunnel has at length intersected the celebrated Wheel Brothers lode. Capt. Rickard, who has had a life's experience in the mines of the district, states he "never saw a finer looking lode in the district for the production of silver." The recent experiments at Wheel Brothers Mine, conducted by Mr. Doble, under the supervision of Mr. J. Y. Watson and the other directors of the Langford Mine, have practically shown that all the ore from Wheel Brothers lode can be treated at a profit. Silver Hill has a run of about 400 fms. on the Wheel Brothers lode, and the lode has been intersected at about 40 fms. from the surface. It is stated that where worked on in the Wheel Brothers Mine the lode has given an average value of 1000. per fathom from the 40 up to the surface. Should the lode prove equally valuable in Silver Hill the returns will considerably exceed a million, and there is no reason whatever to assume it will prove less valuable. Even, however, should the lode prove but one-half as rich in Silver Hill as it has in Wheel Brothers the returns will equal about 200. for every sovereign at present paid for the shares.

Meetings of Public Companies.

THE CAMBRIAN MINING COMPANY.

The extraordinary general meeting of this company, called by the liquidator, was held at the Cannon-street Hotel, on Thursday, Mr. THOMAS ADAMS in the chair.

Mr. ADAMS: Gentlemen, I am pleased to inform you that Mr. Fell is present.—Several SHAREHOLDERS: Hear, hear!—A GENTLEMAN seated with the directors, but whose name did not transpire, read the notice convening the meeting.—Mr. BROWN: Here, give it here; you have made a mistake. Mr. Brown then read the notice.—Mr. GREGORY: Before proceeding further, allow me to hand in this protest on behalf of Mr. Fell and his proxies.—Mr. ADAMS: What is it?—Mr. BROWN: Here, give it here. Mr. Brown then read as follows:—

The Cambrian Mining Company (Limited).—To Mr. Thomas Adams, the liquidator of the above-named company, and the Chairman of the meeting of the members thereof held March 2, 1882, at the Cannon-street Hotel, London. I, the undersigned, do hereby (on behalf of myself and all other members whose proxy I am) protest against the validity of the resolution approving of the indenture of Feb. 17, 1882, about to be submitted to the said meeting, and I hereby require you to abstain from putting such resolution to the meeting, and I declare that in voting against such resolution on behalf of myself, and as proxy for others I shall do so without prejudice to my right and to their rights to impeach the same.—Dated March 2, 1882. (Signed) JOSEPH FELL.

Mr. FELL: Allow me, Mr. Chairman, to ask the name of the gentleman on your right?—Mr. ADAMS: This is Mr. Brown.—Mr. FELL: I beg your pardon. I should have said your left?—Mr. ADAMS: Mr. Stanton Grey.—Mr. FELL: Oh, that is Mr. Grey. I have never seen him before, and I have reasons for wishing to be able to identify him.—Mr. BROWN: Well, gentlemen, as you have all received a printed copy of the resolutions to be placed before you, there is no reason for me to say much upon the matter.—Mr. FELL: Why don't the Chairman speak?—A VOICE: Unable. (Laughter.)

Mr. BROWN: The purpose of the resolution, as you are aware, is to appropriate the capital subscribed for the working of the mine and for carrying on the litigation with Mr. Fell, against whom and Mr. Keene, and as Mr. Fell has informed you, Colonel Cholmondeley, we have made a claim.—Mr. FELL: Endeavour to extort money by false pretences you should say.—Mr. BROWN: Gentlemen, the evidence given by Mr. Fell before the examiner is under his own hand, and therefore not in his power to deny.—Mr. FELL: It entirely proves the truth of what I stated to the shareholders, and you dare not publish it.—VOICES: Why not publish it?—Mr. BROWN: I may as well here state the reason why we have not included Messrs. Gries and Hilton in our claim; in fact I have been asked the question by several shareholders.—A SHAREHOLDER: Hear, hear.—Mr. BROWN: From enquiries I have made I do not believe we could get anything from them. Mr. Brown then went on to state that he was glad to find that at last Mr. Fell seemed to think seriously of the matter.—Mr. FELL: I'll make you think seriously of it before I have done with you.—Mr. BROWN: And I hope, gentlemen, as Mr. Fell is here, he will give you some explanation of his intentions.

Mr. FELL: Gentlemen, I will not condescend even to criticise the most shameful scheme (hear, hear)—laid before you, or the disgraceful means adopted to obtain proxies for carrying the same. (Hear, hear.) Indeed, the only reason I have attended this meeting is that I am informed by counsel that it is requisite that I should thus formally protest against the scheme in view of the legal proceeding I intend taking. As regards the remarks which have been made to you, they merely excite my pity and contempt.—A SHAREHOLDER: For the shareholders?—Mr. FELL: Yes, for the shareholders. For those whose interests have been sacrificed through no fault of theirs; my contempt for those who have allowed their love of greed to blind their sense of honour and justice, Gentlemen, I decline to make any further remarks upon a subject which I am about to submit to a legal tribunal. (Hear, hear.)—Mr. ADAMS: Well, gentlemen, I now submit the resolution.—Mr. BROWN: You had better not; get someone else.—Mr. FELL: To do your dirty work?

After some time a shareholder present, Mr. COURT, proposed the resolution. (Laughter.)—The resolution was put to the meeting.—The majority present in person being 35, representing 9933 shares, of which 27 voted in favour of the resolution, but the total shares represented were only 2467, whilst the eight shareholders who voted against the same represented 6466 shares.

Mr. ADAMS, as Chairman, amidst expressions of dissent, declared the resolution carried.—Mr. FELL: I demand a poll, although I doubt not the proxies obtained under false pretences, as all your support has been obtained, will, for the time, answer your purpose.

An attempt was here made to prevent Mr. Fell speaking.—Mr. FELL: I shall not be put down by any trickery, and will not be frightened. I demand the poll for ulterior purposes.—Mr. GREGORY here handed in the formal requisition for a poll, a proceeding which caused much argument at the table as to the course to be pursued.—Mr. FELL: Surely you know the usual practice; if not, ask Mr. Gregory, my solicitor.

After some discussion Mr. BROWN stated that Mr. Adams, using his authority as Chairman, appointed the poll to be taken immediately after the meeting. (This was eventually done, and resulted in favour of the resolution, but by only 231 votes in excess of the original number.)—Mr. ADAMS: Well, gentlemen, I will now tell you what has been done at the mine. In the eastern shaft there is an adit level cut some 47 yards.—Mr. FELL: Driven, you mean, and when I had the mines it was 63 fms. east.—Mr. ADAMS: That would be 100 yards.—Mr. FASTNEDGE: No, it would not.—A SHAREHOLDER: Tell him what a fathom means. (Laughter.)—Mr. MANSELL: A fathom is 6 ft. Mr. ADAMS: Well, gentlemen, in this shaft there are five levels cut. (Laughter.)—Mr. FELL: Do not talk such nonsense.—Mr. ADAMS: Well, gentlemen (laughter)—having explained this to you (Explained what?) I will now proceed. The speaker then continued making statements and observations in regard to the mines which caused much amusement to the shareholders present practically acquainted with the subject. Mr. Adams brought his remarks to a close by suggesting that the sinking of the western shaft was an unnecessary work spoken of by the old directors as an important operation.

Mr. FELL: Gentlemen, I shall not take the trouble to follow Mr. Adams all through his absurd statements for the purpose of refuting them. They are too ridiculous to be worthy even of a contradiction. (Hear, hear.) Mr. Adams knows full well that the large majority of shareholders are as ignorant of mining as himself or he would not have dared to address to you the utter twaddle he has done. I emphatically say that every word he has uttered is untrue, and every measurement and detail is incorrect. I shall not trouble to make any observations except in regard to an operation for which I am to a certain extent responsible. I refer to the western shaft at Esgrair-Hill Lead Mine. I am responsible in this way. When I last lent the company 5000l., and agreed to advance any further sum that they might require at 5 per cent. interest, I made it a stipulation that this western shaft should be sunk, and I now propose to give my reasons for suggesting this work, and if Mr. Adams pays attention to my observations, he will learn something that may be useful to him. I beg pardon. I was forgetting for the moment that possibly Mr. Adams will shortly be placed where mining experience will be of no avail. (Laughter.)

In the early times of the Cambrian Company an attempt was made to unwater the then westernmost shaft named Shaft Goch. The pumping operation was performed by an engine of which Mr. Adams has never told you. I was at the mine when the water was forced down to the 20 fms. level, and the late Capt. Glanville and myself immediately went down. We found the old working to be most extensive, and the shaft and other timber—what Mr. Adams called props (laughter)—to be in a most rotten state, and as it would have required thousands of pounds to re-timber Capt. Glanville immediately decided not to continue these old works. Had Mr. Adams been with us he would have had a lesson in mining of a lasting character. We barely escaped with our lives, and indeed I believe that it was the great fatigue and the long exposure to ice cold water that we suffered upon that occasion that first sowed the germs of the disease which culminated in Capt. Glanville's death. Gentlemen, I did not neglect the opportunity of carefully examining the dip of the ore as evidenced by the stopes. Mr. Fell then explained fully his reasons for supposing that the ore dipped to the west, and reminded the shareholders that from about 100 fms. on this lode upwards of 1,000,000. worth of ore had been extracted and sold. Mr. Fell, in conclusion, said: West of where this quantity of ore was obtained the lode continued in the grant in virgin or unworked ground—please remember this, in entirely undeveloped ground—for some 600 fms. I suggested the sinking of the western shaft in the middle of this distance—that is to say, with 300 fms. of entirely new ground to the east and west, containing a lode that has already been proved to be one of the most productive ever opened. And, gen-

tlemen, this is the work that Mr. Adams, who is as ignorant of mining as he is of manners (laughter)—has dared to say was of no importance. Now, gentlemen, I ask Mr. Adams has he ever been underground in his life?—Several VOICES: Answer the question!

Mr. ADAMS: No, I would not trust myself on the ladders. (Laughter.)—Mr. FELL: And this, gentlemen, is the man who, by a system of misrepresentation, has obtained the management of your mines. Now, gentlemen, Mr. Adams has produced a letter from Capt. Francis denying Mr. Keene's statement as to the attempted bribery. You cannot be surprised at that letter, but I now ask Mr. Adams whether it is not a fact that he paid Capt. Francis 1000. for some worthless shares, and Mr. Girvin likewise 500., and if he admits he cannot deny it I then call upon him to explain the difference between such conduct and bribery.—Several SHAREHOLDERS: Hear, hear.—Mr. FELL: I intend to have an answer.—Mr. BROWN: You will have to go out, if you don't mind.—Mr. FELL: You try to put me out.—Mr. BROWN: I shall not allow Mr. Adams to answer Mr. Fell's question.—Mr. FELL: You are found out.

Hereupon Mr. BROWN having whispered to Mr. Adams, that gentlemen, as Chairman, declared, amidst confusion, the meeting to be at an end, and ordered all old shareholders to immediately retire.

RUBY AND DUNDEBERG.—At the meeting of shareholders on Tuesday, to confirm the special resolution passed at the meeting on Feb. 13 with reference to an increase of capital, three resolutions were passed and confirmed unanimously. The Chairman mentioned that shares had been applied for considerably over the number to be allotted. He also stated that the directors had made arrangements with Mr. R. Rickard to take the supreme management of the company at Eureka.

KOHINOOR COMPANY.—Three months since the Kohinoor Company obtained working possession of the Donaldson Mine, near Idaho Springs, Colorado, but the purchase was not completed and legal possession given till December. Up to Feb. 4 the following work has been executed—Adit No. 1 has been driven 109 ft.; adit No. 2 has been driven 68 ft. The main shaft, which was down 55 ft. when the company took possession, is now down 106 ft., and drifts started at 100 ft., north and south, the north drift being in 25 ft., and the south 35 ft. The ground is reported to be most promising at all points, the shaft being sunk in good ore and the drifts at bottom being also in ore. The No. 2 tunnel has been produced in all directions, and is rich at the present end. Mr. Rickard, the consulting engineer of the Kohinoor Company, states that when sufficient area of the ground is developed excellent returns may be looked for, and that "the shaft is going down in a really fine lode, and is rapidly laying open high-class stopes ground, and when the 200 is reached and drifts are started there (supposing the other drifts to be vigorously pushed in the mean time) the mine will, in all probability, be in a position to admit of the introduction of regular stoping and to make good monthly consignments to the mill and smelting works, with a result which will, I think, fully justify the expectations raised." The results sent home of the first sale is evidence of the superior quality of the ore stuff, and the mine gives, in the weekly reports, the most satisfactory evidence of its being abundant. A considerable quantity of ore has been taken out during the progress of the development works. The mill returns of the parcels of ore forwarded before the late heavy fall of snow blocked the roads are dated Jan. 8—2 tons 350 lbs. concentrating ore, gold 3½ ozs., silver 4 ozs., value per ton 874.45; 3 tons 1685 lbs. gold 1.05 ozs., silver 9 ozs., copper 2 per cent., value per ton 834.58; 764 lbs. gold 2.25 ozs., silver 4 ozs., value per ton 848.50; 1 ton 344 lbs., gold 2 ozs., silver 3½ ozs., copper 1½ per cent., value per ton 850.25; 1 ton 725 lbs., gold 2½ ozs., silver 2½ ozs., copper 1½ per cent., value per ton 850.52; 1350 lbs., gold 60 ozs., silver 2½ ozs., copper 1½ per cent., value per ton 884.50. A picked sample from No. 1 drift assayed, gold 7.42 ozs., silver 9.56 ozs., value per ton 1183. Another sample assayed, gold 2.3 ozs., silver 29 ozs., copper 48 per cent., value per ton 1070.83. The later mill returns are not yet received, and it is not, therefore, possible at present to estimate the value of the sections of ground already opened. The Donaldson Mine is most favourably situated for economical and rapid working, the hill in which it is situated ending in a bluff, where the mine begins, and the lode running up therefrom to a height about 1200 ft., above where the shaft begins, all the tunnels are thus driven in the lode. The previous service workings proved the lode to extend 350 ft., and now that the shaft is down in ore to a depth of over 100 ft., the continuity of the lode in depth is demonstrated. The engineer reports as to the Kohinoor Mine that "everything is in a position for rapid and effectual opening of the mine in depth. In the aspect of the lode there is no material change, it presents the same regularity and strength, with the same promising appearance in tunnel and shaft, and there are the same reasons for urging a vigorous prosecution of these developments." When the company first took possession of the Kohinoor a body of ore was standing in the 112 level, which was an enormous amount of very high grade stuff. The mill returns giving an average of over 400 ozs. in silver; but as this did not prove to be continuous, it was decided to sink a main shaft from the tunnel level, and the upper level was let in tribute of 25 per cent. The tributors continued the work on the 110 level, and have struck a vein, or pocket, assaying 300 ozs. of silver to the ton. In sinking the main shaft to its present depth of 150 ft., rich stopes of ore, assaying from 300 ozs. to 1500 ozs., were met with, but not in paying quantities. The company have received two offers to work the mine on tribute.

AUSTRALIAN MINES.

ENGLISH-AUSTRALIAN GOLD.—M. Pollard, Fryerstown, Jan. 17: 200 ft. Level: We have been stoping the back of this level for the past fortnight, quartz making a little larger in the western wall; we have the top of the stone in the stopes. I have commenced to drive the level again; there is a little quartz making on the foot-wall, but poor—190 ft. Level: This drive is still in last stage, with a little slate face, but no sign of quartz as yet. I hope to soon get slate ground, as this sandstone is very expensive for driving, driven 11 ft. during past month with four men—140 ft. Level: This end has been driven but very little for the past fortnight. We have been blocking out the western side of the drive, and have the bottom of the stone. I saw little gold on the western side, but very fine. I have two men working on the eastern side of the 280, south of No. 2 rise, with stone 4 ft. thick. This stone was left by the tributors some time ago, very good looking stone; I have not seen any gold in breaking it. The stone at the 232 is all but worked out between No. 1 and No. 2 rise; it being a flat leader, and the stone at the 232 is all but worked out. It was not much left to block out back to the footwall. I have shot another fortnight's work, and then shall put the men to go north on the new run of stone. The stone going north of the 210 is very small and dipping very fast; will soon be under the foot of this level; the ground is also hard. The stopes south of cross drive, 130, are very troublesome to work; all new timber has to be put in drive, as the old timber was all broken; hard work to put a truck through the drive. The stopes north of cross-drive are not looking as well for quartz; a flat floor came from the eastern side of the stopes and cut off the quartz from going up—stone now about 3 ft. thick. I have taken two men from the stopes back of 150 to put up another quartz pass; after they put up this I shall commence to drive this level north again; the stopes back of this level are looking very poor. We crushed 655 tons during the past month up to Wednesday, 11th inst., 7 a.m.—Result, 156 ozs. 18 dwts. retorted gold, which is a little better than last month; time occupied in crushing, 20 days. I should like to see whether we could meet with any quartz in the eastern cross-cut level; I commenced to sink the eastern shaft, as I should be able to put the four men who are working in the cross-cut to work at some other place if there is no quartz there, as I do not want to put on any more men before we can get more gold. Resumed crushing from eastern shaft five o'clock Friday, 13th inst.—Western Shaft: The north end has been extended 10 ft. this month, but very little quartz in the drive. We met with a leader in the footwall 2 ft. thick, worked it out for two sets of timber length, and 3 ft. east, but saw no gold to the stone. The rise has also been put up 10 ft., and holed through to the bottom of the winze. Mr. Halsbeck put up a rise from the back of this level 20 ft. from this winze, then he put in a drive to the winze, and then put in an adit and filled it up. I have started two of the men to put in a drive 28 ft. down the winze from the top level. There was a large body of stone in the bottom of this level, and gold in the south drive. As soon as I have room for the three men I shall put them here to get out a crushing. We have crushed 95 tons of stone—result, 5 ozs. 12 dwts. retorted gold, which is no good to us any more than prospecting the ground. The time taken for crushing this was two days and 24 hours.

The accounts for the month show the company's balance at the Victoria Bank had increased from 3327. 13s. 3d. to 1932s. 8s. 7d. The proceeds of gold sold and sundries amounted to 615s. 9s. 7d. The cost for the month, including 28s. 11d. expended on the western reef, amounted to 455s. 0s. 3d., leaving a profit for the month of 1600. 9s. 4d. The assets consisted of pyrites and gold unsold estimated at 110s., and the only liability was 15s.

PORT PHILLIP AND COLONIAL GOLD.—Jan. 16: Results of the month's operations ending Dec. 23: Total quartz crushed 2567 tons. Total gold obtained 703 ozs. 0 dwts. 12 grs. Average per ton 25 ozs. 14 grs. Receipts (including 1355. 14s. obtained from tributors) 1727. 15s. 6d. Payments (including 500 paid for firewood) 1470. 3s. 3d. Profit 257. 15s. 3d. Less royalty 74. 11s. 5d., leaving a net balance of 1832. 3s. 10d., which added to the previous balance made a total of 10291 15s. 9d., which was carried forward to next month's account.

VICTORIA (London).—Results of the working of the South Clunes Mine for the month ending Jan. 4: Total quartz crushed, 2581 tons; gold obtained, 533 ozs. 10 dwts. 22 grs.; average per ton, 4 dwts. 3 grs.; receipts, 1293s. 1s. 12d.; payments, 1425s. 4s. 1d.; loss, 112s. 2s. 3d.

YORK PENINSULA.—The directors have advised from the committee of the inspection at Adelaide, with report from the Kurilla Mine to Jan. 12: The following are extracts from the report of Thomas and John Anthony:—Kurilla Lode: In the 67, east of Hall's shaft, at present the lode in the face is hard and poor, and driving is stopped while laying on air pipes to drive to the south part of the lode (to which from the north part at the upper levels the ore seems to have changed its position) by the boring-machine. A tramroad is laid down from Hall's shaft to the end of this drive; total distance 89 fms. 5 ft. 10 in. Six men are stoping the back of this drive, the yield being 2½ tons of 15 per cent. ore per fathom. At the 55 east a cross-cut has been driven south and west, intersected the south part of the lode. From this cross-cut we are driving both east and west, east by two men at 7½ per fathom, the lode being large with decomposed slate, 2 ft. wide, but very little ore; west by two men at 12½ per fathom, the lode yielding 2 tons of 16 per cent. ore per fathom; four men are stoping the back, the lode yielding 2 tons of 20 per cent. ore per fathom. At the 45 east we are now driving east on the south part, the lode yielding 2 tons of 15 per cent. ore per fathom. At the 35 east the lode in the face is poor. At the 25 east the work done on the north part is about 6 fms. in length of good lode has been laid open on the south part, which when ventilated from the 15 will yield good ore. The lode in the face is highly promising, and will shortly be vented to a good stope that is being worked in the 15, so that the prospect is very good indeed. At the 15 east six men are stoping at an average tribute of 7s. 4d. 10 in. Besides the above some good ore has been found in the drive on the south branch westwards, which will be taken out by the tributors at 10s. in 10 in. section No. 308 we have driven the 10 in various directions. We cut in small quantities in several directions, but there is great disorder, and it is not easy to determine which is the most likely to lead to the main lode.—Morphett

3 ft. of it, and at intervals make a cross-cut through the width of the lode, which varies from 4 to 8 ft. The lode is mainly composed of rock, quartz, and a little blende, and letting out a great quantity of water. We have about 11 tons of lead and blende dressed.

GODDARD'S LEAD.—R. H. Vivian, March 2: Since my last advice we have taken down the lode, and find we are going down in a fine lode, widening as we go deeper; the lode is composed of ribs of lead ore and blende, worth of the former 10 cwt. to the fathom. We find the best lead ore dipping eastward, where the adit has proved good ore gone down, and when the shaft is down to another level good stamming ground will be laid open.

GOODEVERE.—R. Knott, March 1: In stamming east of shaft the lode is 4 ft. wide, producing saving work for the stamps. In the rise in back of shallow adit the lode is improving both in size and appearance, being now from 2 to 3 ft. wide, a kindly looking lode. Good progress is being made in driving on the course of the new lode. In consequence of the heavy floods we have had during the past week we thought it wise to stop the stamps two nights in order to save the side of water-course from being washed away.

GORSEDD AND MELLYN.—W. Edwards, March 2: The lode in the 90 west is getting wider, and there is some blende coming in; altogether appearance have much improved. In No. 1 pitch, in the roof of the 70 east, the lode is worth 12 cwt.; No. 2, 10 cwt.; No. 3, 12 cwt.; and No. 4 in the roof of the 90, 9 cwt.

GREAT EAST VOR.—H. Cowling, Feb. 28: The south lode is just as when last reported—14 in. wide, and very rich in tin. The north lode is increasing in value; it is now 2½ ft. wide, all good stamming stuff for tin. These two lodes will form a junction in 3 or 4 fms. deeper, and when that takes place I fully believe we shall have a regular mass of tin, and I am very much pleased to tell you our stuff at the stamps is yielding more tin than we anticipated.

GREAT HOLWAY.—W. T. Harris, March 2: Roskell's Shaft: The 110 west has been extended 3 fms. 1 ft., the lode maintains the full width of 5 ft., and in character exactly similar to what it has been for some time; according to the distance driven we must now be nearing the point of intersection with a north and south lode, and as evidence of this an increased quantity of water issues from the forebreast, and the ground rather easier for progress, set to six men, at 10½ per fathom. The 95 has been extended 3 fms. 1 ft. 6 in., the lode being 1½ ft. wide, and producing some nice stones of lead, about 15 cwt. per fathom; within the last few days a large stream of water has been tapped, and there are other indications of an early and important change; a strong feed of water at the 80 has been drained in consequence of this very pleasing feature; re-set to six men, at 10½ per fathom.—Level Engine-Shaft: The winze in progress between this 80 and the 60 has been communicated, and good ventilation prevails throughout this section of the mine; the lode has been panned, and found to contain lead and blende in paying quantities, which will have immediate attention. The 80 has also been extended east 1 fm.; the lode at present is 2 ft. wide, worth for lead ½ ton and blende 1½ ton per fathom, and very promising; driven by six men, at 11½ per fathom. Operation have also commenced upon the north and south lode, which is 3 ft. wide, producing stones of lead ¾ cwt. weight, and prospects most encouraging; in fact, I am daily expecting a valuable discovery here; driven by four men, no price fixed. The 60 east, after cross-cutting both north and south and proving the width and character of the lode, we have resumed the driving eastward; the portion of lode carried is producing 1½ ton of lead ore per fathom, and improving as going forward; set to six men, at 6½ per fathom, and 20s. per ton lead. No. 6 stope in bottom of this level is yielding lead and blende, worth of the former 1½ ton and the latter 1 ton per fathom; this is a new point, and promises good returns; set to six men, at 3½ 10s. per fathom, and 20s. per ton lead.—Tribute: No. 1 pitch in back of this level west has slightly improved for lead, now worth 1½ ton per fathom; re-set to four men, at 4½ per ton and 40s. blende. No. 2 pitch in back of this level west is worth 10 cwt. of lead and 1½ ton of blende; set to four men, at 7½ per ton the former and 40s. per ton the latter. No. 3 pitch in back of this level east, is producing 1½ ton of lead and 1 ton of blende; set to three men, at 7½ per ton the former and 40s. per ton the latter. No. 5 pitch east of and adjoining the above is worth 3½ tons of lead and 1 ton of blende per fathom; re-set to six men, at 20s. per ton and 10s. per ton respectively.—Brammock Shaft: No. 4 pitch in back of the 60 east is producing 8 cwt. of lead and 1½ ton of blende per fathom; set to six men, at 7½ per ton and 40s. per ton respectively. No. 3 pitch in back of this level east is producing 10 cwt. of lead and 1 ton of blende per fathom; set to four men, at 7½ per ton the former and 40s. per ton the latter.—Office Shaft: The 100 in bottom of the 60 west is worth 10 cwt. of lead and 1½ ton of blende per fathom; set to three men, at 7½ per ton and 40s. per ton respectively.—Eaton's Shaft: The repairing of the engine is now nearly completed, one boiler will be finished in a few days, and shall then proceed to put it into position. The leading and bed for cylinders of capstan engine are now ready waiting for the engineers to put them into their places, and all other work in connection with starting this engine is in a forward state. The surface work is now nearly completed, and dressing progressing with usual regularity. Machinery working well, and in good condition. Have sold during the month 60 tons of lead, realising 714½, and 50 tons of blende, realising 176½. s. total, 891½.

GREAT LAXEY.—W. H. Rowe, Feb. 28: The further cross-cutting in the 247, north of Welsh shaft, shows more lode, containing a little more blende, and although there is little or no lead so far it is altogether a strong lode, and of a very congenial composition. There is no change worth remarking in the workings over this level, and the cross-cutting in the 235 north is just now interrupted by stuff from the stope. No. 1 stope, over this level, is worth 10½ per fathom; No. 2, 13½ per fathom; and No. 3, 15½ per fathom. Roof stope, in the 220, worth 20½ per fathom. In the driving and stope on a small, though rich, branch in the 165 south is glad to say the ore offers to lengthen; present value 45½ per fathom. We are persevering with the trial in the 190 south, and are in hopes something good may yet result from it, as the 180 end has not been driven far enough south to prove this pipe of ground. The winze in the 165 south has fallen off in value, but here again the ore seems inclined to follow the hanging branch of the lode, which we must carefully watch, and if necessary continue the sinking upon it exclusively. A driving and stope in the sole of the 145 south is in a wide, coarse description of lode, of little value for ore, but we are proving the ground a little before making a final cut at this exact point. There is no particularly new feature in the other workings of the deep mine.—Dumbell's: The 230 end, driving north, has come up with a small slide, throwing the lode a little to the west, which, however, has an improved appearance, and likely to be productive of ore again soon. The 215 end continues in a good lode both for blende and lead, and a branch coming into the driving from the hanging side has added to the value, now 45½ per fathom. The lode in the winze is still variable, now worth 25½ per fathom. No. 1 stope, in the roof, has slightly declined in value, but No. 2 continues to be worth 40½ per fathom. The two stopes in the sole of the 190 have improved—in the one case to 40½, and in the other to 35½ per fathom. The one in the roof 30½ per fathom. There is also an improvement in the 185 roof stope, now worth 30½ per fathom. A stope in the sole of the 125 is worth 20½, and another in the roof 30½ per fathom. The winze in the 110 is worth 18½ per fathom, and the two stopes in the sole 6½ and 30½ per fathom respectively. The stope below the 85 is worth 60½, and that in the roof 25½ per fathom. In this level forward north we are continuing the cross-cutting eastward a little further, to be fully satisfied that the branch of the lode already intersected is the main one before continuing the level upon it.

GREAT WEST CHIVERTON.—J. Curtis, March 1: The lode in the deep adit is split up; it is 3 ft. wide, with spots of blende in it.

GREEN HURTH.—James Polglase, Feb. 23: I have great pleasure in stating that the lode in Swan's shaft fully maintains its value, and seems likely to further improve. No. 1 is the same as last reported—worth 6 tons per fathom; this end is suspended on account of not being able to get the stuff away for a short time. A rise is put through in the above level to the 30; lode worth 3 tons per fathom. The stope in the back of Standage level is worth 8 tons per fathom. No. 3 drift in south is worth 2 tons per fathom. No. 4 stope is worth 1 ton per fathom. No. 5 stope is worth 3 tons per fathom. The stope south of No. 4 is worth 3 tons per fathom. No. 6 stope in the 31 fm. level, is without change during the week. The adit level south of south is without change.

GWYDYR AMALGAMATED.—J. Roberts, W. Sandoe, March 1: Aberlyn: The rise from No. 2 to the shaft is looking more kindly both for lead and for blende than it was last week. We broke to-day some very nice stones of lead, mixed with blende. The pump below the No. 2 is much of the same character as we described it last week, but the water has become rather troublesome, which if it continues will be a great nuisance, and the men to stop in the bottom of No. 2. No. 3 end is looking more kindly than it was. There is a well-defined lode about 2 ft. wide, with strong faces of blende and spots of lead, and a strong stream of water issuing from the bottom of the end.—Clementina: In the south end at the 44 the lode is large, and several small branches of lead running through it. We shall shortly cut the east and west lode here, where we may expect to get into good lead. The north end at this level is much of the same character as we reported it last week, and so are the other ends.

HINGTON DOWN CONSOLS.—T. Richards, March 1: The lode in the 25, east of the engine-shaft, is large, the part being carried about 5 ft. wide, contains capel, quartz, peach, and mudi, with a little black copper ore intermixed. In the 12, east of the shaft, the lode is without change, being composed of capel, quartz, arsenical mudi, and occasional stones of copper ore. Two men are now employed stopping the ore ground in the back of this level, where we commenced the lode for a short length was worth 2 tons of ore per fathom; at the highest point reached it is worth about 1 ton per fathom. In the deep adit east of the south cross-cut the lode contains capel, quartz, mudi, and stones of black copper ore. The ground in the south cross-cut is again more favourable, having passed through several branches; the latter from 8 to 10 in. wide underlying northward, and is of a promising character, containing capel, quartz, and mudi, and some black copper ore.

KIT HILL GREAT CONSOLS.—Isaac Richards, March 2: During the past month the tunnel level has been driven 5 fms. 3 ft., the ground continuing favourable for progress and for the production of mineral. At the north engine-shaft, sinking below the 100, the lode is 2½ ft. wide, composed of quartz, capel, mudi, and small quantities of copper and tin ore. In the 62, west of the north engine-shaft, the lode is 5 ft. wide, composed of capel, peach, quartz, mudi, and a little tin ore. In the 62, east of the north engine-shaft, the lode is 3 ft. wide, composed of quartz, capel, mudi, and small quantities of copper and tin ores. The machinery throughout the mine is in good condition, and working well.

KIRK MICHAEL.—R. Rowe, Feb. 28: The 20, driving north, is not yet out of disorder ground, and the lode is split into strings of ore. The cross-cut east by the adit is in good ground, and progressing well. We sample 20 tons of lead on Saturday.

LADY BERTHA.—Thomas Gregory, Feb. 27: The lode in the 30 east is of the same productive character as formerly. In the 40 east the lode will produce 10 tons of mudi and a little copper per fathom. As the ventilation is not so good at this point, we have taken the men from the end and placed them to assist in putting a rise from the back of the 40 to communicate with the level above; this will give good ventilation, and admit of the mudi being taken away at a cheaper price. The winze sinking below the 30, near the engine-shaft, will produce over 10 tons of mudi per fathom. No other change to report on. Machinery working well.

LADY RASHLEIGH CONSOLS.—Phillip Rich, March 2: We have in the past week reached the breast of ground 2 fms. above the back of the deep adit level. I find a level driven 6 ft. west of the breast. The lode in the end is very rich for tin, and splendid in character. About 15 fms. west of this point is the junction of the caunter and Rashleigh lodes, each lode being more than 10 ft. wide. A large stream of water is coming down the west end of the lode; this I consider a very favourable sign, especially as the mine drains itself without pumping through the deep adit the water is no trouble to us. The men

are engaged in clearing out the debris in the bottom which we left in making the level. I see no reason why we should not find as good a lode in the bottom as in the breast. The sawyers are engaged in cutting stamps lifts out of the trees recently felled. Four men are engaged in widening the upper lift, which is now enlarged to 8 ft. wide and 4 ft. deep to a length of 360 yards; this new lift will carry a river of water. Another work pressing satisfactorily is LANGFORD.—J. Goldsmith, March 1: Owing to the very boisterous state of the weather yesterday the carriers would not take out their cattle, consequently we could not load the cylinder, but we have taken down the bob, and hope to load it to-morrow (Thursday). The carriers have promised to load all the rest by themselves. I hope this week will finish up pretty well, except two or three men to see everything is all picked up and put into the trucks in safety.

LOVELL (THE).—J. Prisk, March 2: Howan Lode: The 33 to drive west of engine-shaft, by six men, at 12½ per fathom; lode 8 ft. wide, producing low quality stuff. A rise in back of this (33) level, by six men, at 12½ per fathom; lode 12 ft. wide, worth 12½ per cubic fathom. To stop the back of the said level, west of rise, by six men, at 5½ per fathom; lode 9 ft. wide, worth 12½ per fathom. To drive the 66, east and west of pump winze, by nine men, at 15½ per fm.; lode 6 ft. wide, producing a low quality work only. We are expecting an improvement here shortly, as we consider the main shoot of tin has dipped eastward.—New North Lode: The new engine-shaft is down to the 20 from surface, and we have commenced to drive east to-day, and have set 5 fms. certain, at 6½ 10s. per fathom; in driving this we hope to open up profitable tin ground. We shall also commence driving west at this level as soon as convenient.

ELLANAR.—John Gilbert, March 1: The elvan in the 80 cross-cut, driving south of Gundry's shaft, is now getting mixed with killas, and we think the cross-cut will very soon be altogether in that rock. The ground is also a little harder. The elvan-course here is over 40 fms. wide. We have cut through the branch recently discovered in the 70 cross-cut north of main lode, east of Gundry's shaft, but do not consider it worth pursuing; we shall continue the cross-cut further north; the lode is 3½ ft. wide, and yielding 3 tons of ore per fathom in the 80, driving west of Gundry's shaft, on north part of lode; in a fathom or two further this will again unite with the main lode. The lode is 5 ft. wide, and yielding 1½ ton of ore per fathom in the 100, driving west of shaft, on the main lode; the ground is much easier, and we expect an improvement in the lode very soon. The lode in the 110, driving west of shaft, on the south part, is 3 ft. wide, yielding 1 ton of ore per fathom, and letting out more water, and presenting a very promising appearance. The part of the lode carrying in the 120, driving west of shaft, on the main lode, is 5 ft. wide, and yielding 2 tons of copper ore per fathom; the tiny part of the lode is standing in the south side. The lode in the 120, driving east of shaft, on the main lode, is yielding 1 ton of copper ore per fathom, and some good stones of tin. This level will soon be under some ore ground, and had in the level above. The lode in the winze in the bottom of the 90, west of shaft, is 4 ft. wide, and yielding 2 tons of ore per fathom; this winze is a little in advance of the 100 end. In the winze in the bottom of the 100, east of shaft, the lode is 3 ft. wide, and yielding 1 ton of copper ore per fathom, and occasional stones of tin. The lode in the rise in the back of the 110, west of shaft, is yielding 1½ ton of ore per fathom, and the ground is very much improved. The lode is 3 ft. wide, and yielding ½ ton of ore per fathom in the rise in back of the 110, east of shaft; this will be communicated very soon to the 100 winze. The 110, driving east from the old engine-shaft, is 5 ft. wide, and yielding 1½ ton of ore per fathom, and the lode is ½ ft. wide, and occasionally yielding some very good stones of tin in the 110, driving west from the old engine-shaft, and as this level is leaving the cross-course the lode is getting better defined, and looking kindly for an improvement.

MONA CONSOLS.—J. Mitchell, Feb. 25: Special Report: Since operations have been commenced here a large amount of preliminary work has been done by way of putting up buildings for an office, or store-room, and smithy; also in erecting a horse-whim, cutting surface drains, &c. The mine has also been drained by drawing on the water with a horse-whim. The winze-shaft is deeper up to the bottom, which is about 24 yards and a half, and the old workings are cleared out. A second shaft, which was full of rubbish, has also been cleaned out, and ladders fixed for footway to enter the workings, which shaft has given good ventilation throughout the mine. The bottom level has also been driven several yards west of the winze shaft towards an old sink made by former workers, from which the old miners got some good copper ore. This ground has just been pierced through by a borer-hole, which has let down a great deal of water from the western workings; the men will soon get this piece of ground broken through, which will enable the bottom level to be continued west into new ground, where the lode consists of quartz, and rich copper ore disseminated throughout. This is a strong fine looking lode, and has produced a quantity of copper ore from the workings above, and the open cuttings westward from this place. We find the excavations made by former workers rather extensive; the lode has been stopped away for a great length and height, evidently showing that it was productive for copper. There is some good copper in the bottom of the old sink, where the lode presents a very promising appearance, and looks as if it would improve, and the copper get richer in going down. During the present winter we have had some very heavy rains, which naturally caused a large quantity of water to be let down, but the water has considerably lessened, and it can now be kept out with less difficulty. But in order to sink and open out the mine deeper I would recommend a steam-engine, with which the works could be carried on much more speedily, and with more regularity than by horse-power, as at present. A portable engine of about 15 to 20-horse power would be sufficiently large to suit the purpose, one such as would not consume a large quantity of coal. In addition to sinking the mine deeper I would recommend a trial shaft to be sunk further west on the same level, where the entrance back of the lode can be seen at surface, varying from 6 to 7 ft. wide, stony spotted with copper ore. I would remark that a great deal of the work done here by former workers will be found of considerable advantage to the present company, there being two shafts sunk, and a communication opened to a depth of 24 yards, affording good ventilation, and other facilities for the future working of the mine. The lode at several points shows great strength, varying from 2 to 4 ft., and in places over 6 ft. in width, consisting principally of quartz, showing copper ore throughout, and with such favourable indications I am inclined to think that in depth the copper will become more concentrated, and of richer quality; and, taking these things into consideration, the future prospects may be considered very encouraging.

J. Roberts, M.E., M.M.S., March 1: In company with Capt. Mitchell I have made a careful inspection of this mine, and I could but be favourably impressed with what I saw. Comparatively little has yet been done to prove the value of the lode, as the deepest point I should say is not more than 15 fathoms from surface. There is one thing to be noticed as soon as one goes underground, and that is, nearly all the ground driven in the mine is copper ore disseminated throughout. This is a most important thing when one begins to make large returns. You have a splendid speculation, and you should not delay a moment in getting your engine and setting the pump to work, for the more vigorously you work the sooner will your success be achieved.

MORFA DU.—T. Mitchell, Feb. 23: Setting Report: The stope ore pitch in back of the 60, by eight men, the month, to raise bluestone, at 14s. per ton. The lode here continues to look very well, although we have had to increase the price for raising the ore, as a portion of the men's time is occupied by filling up the workings as the lode is being taken. The stope in the 45, by five men, to raise bluestone, at 14s. per ton. This place continues to look much as usual. The pitch in back of the 20, by five men, at 12s. the ton of ore. This place also takes up a portion of the men's time in securing the ground after the lode has been taken away. The winze in bottom of the 20, at Ida shaft, by four men, at 8½ per fathom. This winze is still going down by the side of the lode; we purpose sinking a few fathoms more before we cut into the lode.

March 2: The lode in the stope in back of the 80 is looking a little better this week. The pitch at the 48 has also improved since the setting day. There is no change worth of notice in any of the other largins.

MOSTYN CONSOLS.—J. Woolcock, Feb. 28: Since my last report of Feb. 15, we have been pushing on the east driving mentioned therein with all possible speed, and I am pleased to state that the ore has very much improved; it is best in the sole of the level, which speaks well for a deeper level. The west level has very much improved for ore last week, and to-day it seems to have improved better. We have started four men in Furness shaft, in the western part of the adit. I hope to be able in my next to give a favourable report of this part of the mine, as I anticipate an early improvement here. We are busily engaged dressing the ore. Machinery working well.

MOUNTS BAY.—Wm. Argall, John Argall, John Rowe, Feb. 25: During the past month we have sunk the engine-shaft 2 fms. 1 ft. 6 in. The shaft is now down 8 fms. 6 in. below the 50. We are sinking by nine men. Since we have got clear of the slide we have had in the shaft three branches, all containing stones of copper ore, and we are hoping these will form a junction and make a good deposit of copper ore. There are four men driving a cross-cut south at the 20, at 6½ 10s. per fathom. This has been done to prove the existence of other shafts, and we think this cross-cut as it will be a very important thing to cut lodes in this direction. In the 40, west of engine-shaft, we are driving by four men, at 3½ 10s. per fathom; the lode is 1½ ft. wide, containing white apatite, quartz, pyrites, and a little green carbonate of copper. We must be getting near the cross lode in this level, and when we cut this a good improvement is expected. This level has been driven during the past month 5 fms. 2 ft. The 62, west of Richard's shaft, has been driven 5 fms., and have again re-set to six men, at 6½ 10s. per fathom. In about 5 fms. more driving we shall get under the bunch of ore in the 87 winze. There are four men sinking the winze below the 57 at 6½ 10s. per fathom; the lode is 2 ft. wide, worth 10½ per fathom. There are two men working on tribute at 18s. in 1½ in. the back of the 40, west of Richard's shaft; the lode is worth about 3½ per fathom. Two men are working on the north lode for tin on tribute at 10s. in 1½. We are preparing another parcel of copper ore. The machinery throughout the mine is working very well.—Sydney Cove: The pumping engine is working very well, and we have cleaned the engine-shaft of sand 6 ft. below the 10. This level has been very troublesome to clear on account of so much sand, and we are also in the shaft. We have seen the 10 cast for about 20 to 30 fms. in length, but not able as yet to see the end of ground. Most of the lode has been stopped away in the back and bottom of this level. This we consider a good sign for the future of the mine. Nine men employed in this shaft, and pushing on as fast as possible. There are three men clearing the winze-shaft, and are now down to the 10. The western cross-cut is driving by two men, at 2½ 10s. per fathom; they are still intersecting small branches, containing pyrites, blende, and spots of copper. We are pushing on with the various surface operations required.—Pembro: The engine at the shaft, driving the pumping-engine, and the pump at the engine, are working from the foundry, and if the necessary work is sent us quick we shall not

be long before we get to work. They have also just commenced to erect the winze-engine. The masons have finished the steam-whim loading, and the carpenters have finished the boiler-house walls and stack. The carpenters have fixed the shears, and are preparing to fix the capstan and hold back bob. In the engine shaft, the house-lift is fixed from adit level to surface for the purpose of pumping water for condensing. Other surface operations are progressing favourably.

MYNYDD GORDDU.—Thomas Kemp, March 1: The part of the lode carried by the 46 end, west of cross-cut, for the width (5 ft.) is presenting a better appearance, being composed of killas, carrying ribs of calc-spar and quartz, showing nice spots of lead ore, but the ground still continues tight for opening. In cross-cutting north behind the forebreast of this level to get under the point of winze sinking from the 34 the lode is also tight, consequently slow progress is being made. The same remarks will apply to the above said winze. But these points are being pushed with all energy. The part of the lode opened on by the 46 end, east of cross-cut, has become a little easier for progress; composed of killas and quartz, carrying strings of calc-spar, spotted with mudi. There is no change worthy of remark in any of the different stope throughout the mine, which continue to yield ore equal to last week's valuation. We forwarded Messrs. Goodhart and Co. on Friday last 10 tons of silver-lead ore.

NEW GREAT WHEEL VOR.—H. Cowling, Feb. 23: We are still carrying down our shaft and stope 5 fms. long, and have a course of tin all the length. We are leaving both ends rich. The bed or floor of tin is increasing in value every foot we sink. At a depth of 7 fms. or 8 fms. we had a good lode of tin; now at our present depth of 12 fms. the value is about four times as much. We are going down on a mass of tin. We have hundreds of tons at the surface now waiting for stamping machinery to make it marketable.

NEW KITTY.—Wm. Vivian, March 2: The engine-shaft is now 36 fms. below adit level. We shall now divide and case the shaft from the 24 to the 10, and put down footway, cut plat, and drive north to intersect Lyall's lode. In the 14, driving west the lode is producing good stones of tin, saving work for the stamps. No change to notice in the 24 since last report.

NEW WEST CARADON.—N. Richards, March 1: We have suspended driving both east and west on the main lode at the 42 for the present, and the same pace of men are engaged putting up a rise in the back of the level east of Hallett's cross-course. This rise is in a good channel of ground for the production of copper ore, the lode in which will yield fully 1 ton of ore per fathom. We think by this mode of working we shall prove the ground in a shorter space of time than merely driving levels without sinking or rising to prove lode at various points. We have also suspended the stope in the back of this level west of cross-course, and put the men to open out a little on one of the branches intersected in the 33 cross-cut south of Hallett's shaft, which will now produce about 1 ton of ore per fathom. The cross-cut above referred to is being pushed on as fast as the nature of the ground will admit. There are various lodes and branches to be seen in this set, which we intend to open out on as soon as convenient, when I have every reason to believe that good results will follow.

NORTHERN.—Thomas Tonkin, March 2: The 15 level tribute stope in the west section yield 10 cwt. of ore per fathom; the ground is easy, and good for progress. The tribute ground above the 42 in the west section is opening out good looking ground westward of Low shaft; the yield of ore is 12 cwt. per fathom. The stope in the east section yield 8 cwt. of ore per fathom. Dressing operations are going forward as usual.—Brandon Walls: The further working of this place it is not apparent is of great importance. The tribute ground west of shaft in the 37 is opening out very encouragingly, and as the ground will yield 20 cwt. of ore per fathom. This same level east of shaft is also improving as we advance, and is likely to yield in future saving work. Other operations are progressing satisfactorily.

NORTH D'ERESBY MOUNTAIN.—R. H. Vivian, March 2: In my report of last week I informed you that the lead bearing part of the lode in our bottom level had got more into the middle of the lode; we have now proved this to be so. We have very good rich silver-lead ore up and down the forebreast, with every appearance of further improvement at an early date.

NORTH GREEN HURTH.—J. Polglase, Feb. 23: The rise in back of the deep adit level is up nearly 4 fms. from the bottom of level. The air is so charged with carbonic acid gas that renders it necessary to suspend the rise and sink from the surface to hole the ground. The lode in the rise is large, but poor. As the dialling cannot be accomplished for a few days the men will drive south on No. 2 branch, which is the most promising vein yet discovered in this level.—Shallow Adit: The vein is small in driving south, but the ground favourable for driving. We shall at once commence driving south on the vein on the north boundary of the set.

NORTH HERODSFOT.—T. Trelease, March 2: The lode in the 117 is still large, and producing saving work; the stope in the bottom of this level continues to yield 7 cwt. per fathom. The cross-cut in the 80 fm. level is letting out more water in the past week, which, I think, is an evidence that the lode is to the west of the present end; the pitch in the back of this level has fallen off in value, and I purpose putting the men to stope the bottom as soon as we can clear the stuff. We have commenced to carry the lead sampled last week to the surface for shipment.

NORTH WALES FREEHOLD COPPER MINES AND SMELTING COMPANY.—H. B. Vercoe, D. Douglas, March 1: The engine shaftmen are making slow progress in sinking, owing to their having tapped an extra feeder of water in the bottom of the shaft; the water has increased to such an extent that we have a difficulty in keeping it drained with the pump in use below the 30, and I have ordered a new working barrel of larger dimensions from the Mold Foundry Company, who have promised to get it ready and forward it without delay. This extra feeder of water has completely drained the 30 both north and south, thus proving that it is flowing from the lode, and that it is becoming increasingly porous in depth, which is a very favourable feature. In the 30, driving north from engine-shaft, the lode continues to improve, and is now fairly into the chute of ore which has been continuously productive from the surface down to the bottom of the mine. We look forward now to having a valuable section of ground to drive through. Judging from what the lode has produced in the workings overhead, the returns from which must have been considerable, ranging as it has a series of years, and having been rich in the adit and 20 fm. level, and now intersected in the 30, proving that it is not merely a surface deposit but a deep chute of ore. In the 30 driving south from engine-shaft the lode again enlarging and looking much more promising, and we expect to discover ore in this direction shortly. The bunch of ore lately driven through looks well in the roof of the level, and we intend setting a stope in the roof as soon as the forebreast has advanced a sufficient distance to allow of another set of men working in the stope. The No. 2 sump is down within 1 fm. of the depth required to communicate with the 30 north; this much desired object we hope to accomplish before another weekly report is written; we shall then, as before, be able to commence a series of stope of stope of stope, and from which we have no doubt of being able to get large supplies of copper stuff for crushing and dressing. I have been to Mr. Baxter's works at St. Helens sampling any weighing the last parcel of copper sold, and dressing is proceeding towards and other sampling. We have every confidence in the future of the mine, and believe that in depth it will develop into a rich and lasting property.

OKEL TOR.—H. Bulford, J. Rodda, March 2: We are making good progress in sinking the new shaft east. There is no particular change to report underground.

PANT-Y-MWYN.—Enoch Parry, March 2: The 22 has been a little stiffer for driving lately, and is very wet. We have just struck what appears to be a fresh floor of ground in the bottom of the ground; the lode is very rich, and the indications are good. The lode is stronger here than in any other part of the mine, and we are quite satisfied in our own mind that a lode like this cannot fail to make a good mine if extensively laid open, and the runs of ore ground especially suitably worked.

PARYS COPPER CORPORATION.—T. Mitchell, Feb. 23: Setting Report: The 90 west of cross-cut, on the No. 2 lode, by six men the month, with rock drills, at 8½ per fathom, the men to pay all cost of explosives, &c. The lode here has been disordered for some time by a series of cross-pitches, and as it is possible the run of ore which we had short time ago may be shifted towards the north side of the lode, we have directed the men to keep strongly in this direction. The forebreast is producing strong patches of copper ore and sulphur, and the ground is looking kindly for an improvement. The rise in back of the 90, on the No. 2 west, will yield about 4 tons of copper ore per fm., set to nine men, at 12½ per fathom. The 90 east of cross-course on the Carreg-y-Dol has been let on tribute to six men, at 14s. per ton. The lode here is improved and opening up pretty well. The pitch in back of the 65, by seven men, is very rich. The lode here is very wide, and sometimes we find the ore formed on the south side, and sometimes on the north side, therefore the whole width of the lode has to be taken away. The pitch in back of the 45, by five men, at 25s. per ton. The lode here is smaller than in the pitches referred to above, but the ore is of a better quality. We have to-day finished weighing off the three lots of ore.

PELYN WOOD.—T. H. Bennett, March 2: The drive is being pushed on as fast as possible. I have no change to report in the character or size of the lode since my last. We have continued the cross-cutting through a congenial stratum for mineral, and I am persuaded we are on the top of another lode. I cannot, as it will be too late for post, wait to furnish you with the result of sinking in it to prove its size and character; this information shall be forthcoming next week.

PENHALLS.—S. Bennett, R. Harris, Feb. 25: The 80 west end from the engine-shaft is in contact with a large gossan, and the lode cut off. In both the 70 east and 60 north ends there is no change to notice. The 50 east on south section of lode is worth 6½ per fathom, and the 42 west on the north lode is worth 12½ per fathom.

PENYANT.—March 2: All the stope have improved, and the driving of the 40 is opening a large body of the mineral, enabling us not only to supply the sulphate of barytes but also to return a good quantity of lead ore.

PEN-YR-ORSEDD.—R. Prince, March 2: In the driving of the 60 we have such favourable ground that I am led to look very soon for the intersection of a strong body of ore. The situation of the end of this driving is now all in our favour.

PHENIX UNITED.—John Truscott, March 2: Setting Report: To drive the 150 west of old sump shaft by two men, at 24 per fathom. The 130 to drive west by six men, at 20½ per fathom; work for the part carried (6 ft.) 20½ per fathom. The 120 to drive west by four men, at 7½ 10s. per fathom; worth for part carried 6½ per fathom. To stope the back of this level by six men, at 4½ 10s. per fathom; worth 15½ per fathom. To drive the 110 west by six men, with boring machine, at 11½ 10s. per fathom; worth for part carried (6 ft.) 10½ per fathom. To drive the 100 west by four men, at 5½ per fathom; worth for part carried (6 ft.) 8½ per fathom. No. 1 stope in back of this level by nine men, at 4½ 10s. per fathom; worth 12½ per fathom. No. 2 stope by nine men, at 4½ 10s. per fathom; worth 12½ per fathom. No. 3 stope by nine men, at 4½ 10s. per fathom; worth 12½ per fathom. No. 4 stope by six men, at 4½ 10s. per fathom; worth 12½ per fathom. No. 5 stope by four men, at 4½ per fathom; worth 10½ per fathom. No. 6 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 7 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 8 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 9 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 10 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 11 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 12 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 13 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 14 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 15 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 16 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 17 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 18 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 19 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 20 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 21 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 22 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 23 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 24 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 25 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 26 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 27 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 28 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 29 stope by six men, at 4½ per fathom; worth 10½ per fathom. No. 30 st

161. per fathom.—Western Part: The 112 to drive west of new engine-shaft by four men, at 137. per fathom; lode unproductive. The 50 to drive west by four men, at 137. per fathom; worth 101. per fathom. To stop the back of this level by four men, at 151. per fathom; worth 102. per fathom. No. 1 stop in back of this level by four men, at 47. 10s. per fathom; worth 101. per fathom. No. 2 stop by six men, at 51. per fathom; worth 257. per fathom. No. 3 stop by six men, at 41. 10s. per fathom; worth 204. per fathom. To drive the 60, at 51. per fathom; by six men, at 121. per fathom; worth 204. per fathom. east of 80s. shaft, by four men, at 51. per fathom; worth 304. per fathom. No. 1 stop in back of this level by four men, at 47. per fathom; worth 304. per fathom. No. 2 stop by six men, at 47. per fathom; worth 304. per fathom. We have six tribute pitches varying from 8s. 8d. to 13s. 4d. in 11. for tin and copper.

PIONEER.—March 1: Silver-Lead Mines, Holywell: Bessie's Shaft: During the past week the men have been engaged in some necessary repairs to the winding shaft, but have now re-started raising ore. The ground is without material change, and quite as rich as last reported.—Carrington's Shaft: The men continue to get good saving leadstuff, and we are pushing ahead as fast as possible to meet the cross lode, and sink a pump through the ore ground. We may soon to anticipate very important changes.—Blackwell Shaft: As previously reported, we have struck into a north and south lode, but have not yet opened out on it sufficiently to test its value. From all present appearances it is likely to open out into a good lode.—Engine-Shaft: In the 60 east during the past few days some flyers or feeders have come across the forebrest, indicating our near approach to the lode. In the rise in the 60 we have not yet passed through the stiff bed of clay, but are daily expecting to do so, and to report important changes. In the 75 east we have cleared out 6 yards this week, and are now in all 24 yards from the shaft. We have from 10 to 12 yards more to reach the lode, which should not take very long, and when completed we can then begin end, and the ore ground. We have cleared out to the bottom of the working, and found it boarded over; but, owing to the incessant rain of the last week, the water has been making so strong that we have not succeeded in getting out the boards from the bottom to see what was underneath. We shall do so as soon as the weather moderates. In spite of the inclemency of the season we can well master the water in the shaft. Our engine and pumps work admirably, and give great satisfaction. Pioneer Copper and Lead Mine, Holywell: The ground has changed for the better in the bottom of the forebrest, which we hope will continue, but we may expect to meet with some troublesome lode of ground in driving between the two lodes, owing to the heaving of the lode, and until we get to the junction of the new copper lode, which is the most important point for us to aim at.

POLROSE.—W. Bennetts, March 1: We are making good progress with cutting the plat and barrow road at the 100. The lode in the 100 west has a kindly appearance, and is fully 2 ft. wide, producing saving work for tin. There is no change calling for remark in the 90, east of north cross-cut, since my last report. In the 90 west the lode continues to yield a little copper ore, and is letting out a great deal of the lode yet, but I propose extending the cross-cut further, as from the sign of the lode I find we are still nearly 5 fms. from the perpendicular of the lode in the 90.

PRINCE OF WALES.—S. Roberts, G. Rowe, March 1: The lode in the 102, both east and west, is 3 ft. wide, character and appearance same as last week, composed principally of capel, with munda, copper, and tin. Lode in the 90 end west is 4 ft. wide, worth 41. per fathom for copper and about the same for tin. Lode in stop in back of this level is 5 ft. wide, worth 91. per fathom for tin and 61. for copper. In the 90 end east we are still driving by the side of the lode, consequently no change to report. Lode in No. 1 stop in back of this level is worth 61. per fathom for tin and 21. for copper ore. Lode in No. 2 stop is 3 ft. wide, worth 147. per fathom for tin. Lode in No. 3 stop is 3 ft. wide, worth 101. per fathom for tin. Lode in No. 4 stop not taken down, but appears to be large, and have a very kindly appearance.—Goodluck: Stop on the great tin lode, the men are working by its side, and will continue to do so for some time.

ROMAN GRAVELS.—Arthur Waters and Son, March 2: The lode in the middle level, going south from the winze below the 40, is about 3 ft. wide, producing 2 1/2 to 3 tons of lead ore per fathom. The 50 south on great spar lode, producing stones of ore, but not sufficient to value. The 65 south, on east portion of lode, shows a lode 3 ft. wide, worth 3 tons per fathom. The 80, south on east portion of lode, shows a lode 3 ft. wide, in a lode 4 ft. wide, producing 3 1/2 tons per fath. The 80, south on footwall part of lode, is producing 1 ton per fathom. The stopes and other points in the mine are without change worthy of remark for some time past. We have to-day sent out samples of 100 tons of lead ore for sale on Thursday next.

RUSSELL UNITED.—John Bray, March 2: There is no improvement in the mine since my last report. I sent a sample of tinstuff taken from the 30 tons which I have on the floors to Drakewalls and had the assay taken, which I believe to be just. We are busy preparing it for the burning-house, and hope to be ready with it in about a week or ten days.

SILVER HILL.—G. Rickard, March 2: I am pleased to report the intersection of Wheel Brothers' lode, which is fully 5 ft. wide, composed of carbonate of iron, quartz, and silver bearing rock, all of which contain silver. I am not at present quite sure if we are through the lode, but what appears to be the footwall with a leader producing grey silver, which, I hope, will prove rich by assay, induces me to believe we are through it. I never saw a finer looking lode in the district for the production of silver. The underlay is about 2 ft. in 6 ft., and will form a junction with No. 4 and 5 lodes about 12 fms. below the tunnel level, when large bodies of minerals will surely be laid open. The No. 4 copper lode in the western end has very much improved in appearance, and is producing stones of copper ore of high percentage. I expect in about another 5 fms. driving it will unite with No. 5 lode, which will further enhance its value. The tunnel will be driven with all speed to intersect the other important lodes we have before us, which are five in number, and we have about 50 fms. to drive to intersect the Good Luck tin lode at a depth of 50 fms. from surface, which lode in the adjoining mines made large returns of tin from surface down to the 50 fm. level, with increased richness as the mine was deepened.

SINCLAIR.—W. Edwards, March 2: We are very forward with all surface works, and commenced wailing up the shaft this morning. The engine-house is nearly complete, and I hope to have everything ready to start on the 15th inst., when we shall urge down the shaft with all possible speed, and open up, I fully expect, a very valuable mine. From this report I think you will gather we have been very diligent in all our operations.

SORTRIDGE COPPER.—Wm. Skevis, March 2: Great North Tin Lode: This is improved, and from present appearances promises great results on future development. The side-tie at the deep adit is being pushed on with all vigour; the ground is very favourable, consequently good progress is being made.

SOUTH CONDUROW.—Wm. Rich, Wm. Williams, H. King, March 1: In the 30 east and west the lode is in the back of the lode, so as to prevent whether the main part of the tin lode is standing overhead. The lode in the bottom of the 80 east is worth 101. per fathom, and the stop in the back is of the same value. The 60 end, east of Plantation, is worth 81. per fathom. The 70 end, east of King's, is in a strong kindly lode yielding good stones of copper with a little tin intermixed. We have started a speculative rise on the tin lode in the 71, west of Plantation shaft, we hope thereby to intersect the run of tin ground seen in the bottom of the 60 west, where the lode is worth 181. per fathom. We have apparently crossed the lode in the 90 end east, which is worth 101. per fathom. The 60 end, west of King's, is worth 81. per fathom. The stop in the back of this level is worth 101. per fathom. In the 50 east we are stripping down the lode close on the footwall to prove its size and value. We have completed the trip-plat at the 50 at Marshall's shaft, and have begun to sink below, the lode is worth 101. per fathom. The lode in the winze below the 40 east is worth 81. per fathom. In the 40 west the lode is worth 121. per fathom.

SOUTH DARREN.—Henry James, March 2: Operations underground and at surface are proceeding with the usual regularity, and very satisfactorily, and I have no very important changes to report this week. We shall sample on Saturday 45 tons of silver-lead ore, for sale on March 10.

SOUTH DEVON UNITED.—William Hooper, March 2: Setting Report: The 110, east of Brook engine-shaft, has been driven during the past month 3 fms. 0 ft. 6 in.; set to six men at 111. per fathom. The lode is fully 5 ft. wide, with a value of 251. per fathom; of a most promising character. No. 1 stop, in the back of this level, is set to six men at 41. per fathom; worth 81. per fathom. No. 2 stop is set to 6 men at 31. 15s. per fathom; worth 91. per fathom. The 100, east of Brook engine-shaft, has been driven during the past month 1 1/2 fms. 0 ft. 5 in.; set to two men at 51. per fathom. The men here were engaged part of the month securing the level and repairing tramroad. The lode is of much the same appearance as for some time past, producing good stones of ore. The ground is everything that can be desired for yielding large quantities of copper. A winze to sink in the bottom of this level, by two men, at 51. 10s. per fathom, and 4 fms. This work, when completed, will greatly improve the ventilation of the 110, and give us a place in the stopes for receiving attil, instead of hauling it to surface. We have also set a rise in the back of this level—the 100 against Martin's shaft, at 51. 10s. per fathom, at 71. per fathom. The stop in the back of this level is re-set to two men at 41. 10s. per fathom; worth 61. per fathom. The 90, east of Brook engine-shaft, has been driven during the past month 2 fms. 5 ft. This end is at present suspended, and the men put to sink a winze in the bottom of this level against the rise in the back of the 100, at 51. 10s. per fathom. This work shall be pushed on with all possible speed that an early communication be effected. The above end will again be resumed as soon as the winze plat is cut and the men got fair under way. The stop in the back of this level is set to two men at 21. 15s. per fath. The 80, east of Brook engine-shaft, has been driven during the past month 4 ft.; re-set to two men at 91. per fathom. The men at present are only carrying part of the lode, which is composed of capel, quartz, munda, and spots of copper ore. No. 1 stop in the back of this level, east of Brook engine-shaft, is set to eight men at 51. per fathom; worth 71. per fathom. No. 2 stop in the back of this level—the 80—is set to eight men at 61. per fath. worth 91. per fathom. No. 3 stop is set to eight men at 51. per fathom; worth 71. per fathom. The adit level, west of old dump shaft, has been driven during the past month 2 fms. 0 ft. 1 in.; set to two men at 21. 15s. per fathom. The lode presents its most promising appearance, containing gossan and black and rich spots of yellow copper ore. Martin's shaft has been sunk during the past month 3 fms. 1 ft. 3 in., and shortly after the last setting day we re-set the men to nine men, 10 fms. stent, at 201. per fathom. I am pleased to say the men are doing good duty, and working early Monday mornings and late Saturdays, so that this most important point of operation may be kept going, that an early communication may be made with the levels east of Brook engine-shaft.—Pickstone's Shaft: The men are engaged here repairing the skip-road, taking up the water at the adit level, and doing work necessary to be done before sinking can be resumed. Our computed quantity, 320 tons of copper ore, weighed off yesterday 334 tons.

SOUTH FRANCES.—Charles Craze, Feb. 28: Pascoe's shaft sinking below the 225 is worth 401. per fathom for 12 ft. long. The 225 east of Pascoe's shaft is worth 251. per fathom, with more lode standing north and south. The 225 west is worth 401. per fathom. A winze sinking below the 215, just before this end, is worth 401. per fathom for 3 ft. long. The 215 west of cross-course is worth 121. per fathom. The 215 east is worth 181. per fathom. A rise in the back of this level is worth 601. per fathom for 8 ft. long. The 205 west, cutting south through lode, is worth 81. per fathom. The 207 east of Pascoe's is worth 201. per fathom; a fine looking lode, and promising further improvement. A rise over the 185 east of cross-cut is worth 151. per fathom. The 175 west is worth 121. per fathom. A rise in back of this level is worth 251. per fathom. The 160 west is worth 121. per fathom. The stopes and pitches throughout the mine are producing their usual quantities of tin. The rise against Marriott's shaft is being

pushed up with all possible speed, and Daubis's shaft, in the western part of the mine, is being sunk with fair speed.

SOUTH TOLCARNE.—T. Angore, S. Arthur, March 1: We have no new feature in the mine to report this week. The underground operations at present are confined to cutting two pits, one at the 50 and another at the 60, and laying tramways. At surface erecting the whim-engine, and drawing gear; excavating foundations for the stamping-engine and tin floors, also making a large pond for the engine. We have not yet commenced to build the house for the stamping-engine.

SOUTH WHEEL CREBOR.—J. Goldsworthy, March 1: In the 46 cross-cut the stratum is showing favourable indications of a change; the branches contain munda and copper ore. There is no change in the 26 north on the east and west lode, the men having been engaged at surface in assisting the carpenters.

TAMAR SILVER-LEAD.—R. Goldsworthy, March 1: Setting Report: To drive the 57 south by six men, at 91. per fath.; the lode is 4 ft. wide, producing 4 cwt. of silver-lead and 3 tons of fluor-spar per fathom; and, judging from its promising appearance, we expect a further improvement when next taken down. To drive the 27 south by six men, at 111. per fathom; the lode is disordered by a hard floor of capel, but this we think is only temporary. To sink the new shaft by nine men, at 131. per fath.; this is down 8 fms. 1 ft. below the adit; the ground is a beautiful light killas, and in the joints we find spots of munda and lead, which proves the ground to be congenial for the production of mineral. To drive the adit and south by two men, at 31. per fath.; here we have intersected a branch which is letting out water. We think by extending this it will take off some water that must otherwise find its way down the shaft.

TANKERVILLE GREAT CONSOLS.—Arthur Waters and Son, March 2: Tankerville Mine: Fair progress is being made in sinking Watson's shaft below the 220—now down 11 ft. The 220 east, on No. 1 north lode, is worth from 10 cwt. to 15 cwt. of lead ore per fathom. The two tribute pitches in the back of this level, on said lode, one east and the other west of the shaft, are together worth 2 tons per fathom. The pitch in the back of same level west, on Robert's lode, is worth 18 cwt. per fathom. The pitch in the bottom of this level east is worth 10 cwt. per fathom. The lode in the 192 west, on north lode, is 1 1/2 ft. wide, producing about 20 cwt. per fathom. The tribute pitch in the back of this level west, on said lode, is worth 18 cwt. per fathom. The pitch in the back of the 142 west is worth 25 cwt. per fathom. The pitch in the back of the 74 west, on south lode, is worth 20 cwt. per fathom. The pitch in the back of the 62 east, on said lode, is worth 10 cwt. per fathom. The pitch in the back of the 35 east of old shaft, on main lode, is worth 15 cwt. per fathom. We shall have delivered the 40 tons of lead ore sold last week to-morrow, when certificate shall be sent to you.—Pennerley Mine: Warm Water Lode: The 120 west of cross-cut is worth from 20 to 25 cwt. lead ore per fathom. The 80 west shows a vein 4 ft. wide, worth 25 cwt. per fathom. The winze below this level, about 7 fms. behind the forebrest, is in a lode 2 ft. wide, worth 18 cwt. per fathom. The stop in the back of this level is worth 15 cwt. per fathom.—Big Ore Lode: The winze in the 120 east is in a lode worth about 30 cwt. per fathom. The water, which has been very troublesome of late, is now drained from this winze, and the sinking will now be continued much faster than for some time past. The 80 east is worth 15 cwt. per fathom. The stop in the back of this level is worth 20 cwt. per fathom. The stop in the back of the same level west is worth 15 cwt. per fathom. The winze below the 70 east is worth 20 cwt. per fathom. There are three pitches at work by six men, at a tribute of 61. per ton of lead ore. The 70 east is not yet cleared out, but very fair progress is being made, and we hope to reach the forebrest very shortly. A great portion of the stuff which is being sent to surface contains some nice stones of lead ore and blende.—Bog Mine: The water is now 5 fms. 3 ft. below the 130, and have been able to drop a plumb line into the bottom of the plunger-like column, which we now believe we shall be able to work without much trouble. We are preparing to connect main roads, &c. There has been no change worthy of notice in the points under development here since our full report last week.

TREDEGAR.—W. Williams, Feb. 28: I am glad to say the turbine is driving the stamp fairly well, and considering the hardness of the lodestuff, and the fine grates through which we have to pass it, the thing is doing all right. The dresser is engaged in cleaning up the floors and putting the buddles in working condition, so as to keep the thing going. We are getting on with the tramway towards the south end as fast as possible. I would here say we have to take off a corner ground by the side of the shaft, so as to get the tramway to the cage; this I hope to complete to-day, when we shall commence to lay the metals, of which we have any quantity on the mine. I hope by the time I write again to be able to report the progress we are making.

TYDDIN GWLADYS.—Thomson, March 1: The whole of the machinery is now at work. The five Britten pans charged will not be ready to tap until Friday. The east and west lode is being vigorously worked upon. On Wednesday last we got into visible gold, both in shaft and stopes, samples of which have been sent to London. The silver lode we continue working. The vein is widening and looks well in the breast. The seven parallel lodes referred to in my last letter are now engaging my serious attention, and No. 4 has been commenced upon, some of which quartz has been crushed and washed, showing fair gold.

At early part of a few tons will be tested. Cwmaision lode (Brook lode) continues the same and with other changes. A solid rib of lead 9 in. thick dipping south, and no doubt united with the lead 60 ft. away on the south wall, there is good reason to expect enormous deposits of ore in the hundreds of cubic fathoms we are now about to stop. On the same level in No. 2 cross-cut, 20 fms. west of No. 1 cross-cut (near where the recent gold discovery was found), we have passed through several branches of lead, and are now driving west on one 4 in. thick south, and ore bearing part of lode still before us. The cross-cut in the 60, I am happy to say, will probably reach the south wall this week. There are now stopes in the 40 east, and water percolating therefrom, which denote a deposit of lead before us. The 70 cross-cut south in lode, also contains stones of lead. Here we are remote from the south wall, hence good results may be anticipated from the present bottom level in these mines—a level I may say considerably above where the permanent riches of our neighbour the Van Mine were found. The 50, west of Gundry's on the north wall of lode, has latterly much improved in character and when driven further west and under the course of ore from where thousands of tons of lead were extracted in the shallow veins I think we shall be well rewarded for the patience and perseverance exercised in the development of this section of the mine. Owing to the exceptional width of the lode our south wall, except for a few yards in the sinking of Gundry's shaft, has not been struck till now. In the 50 it is much richer than anything we have seen on the north wall, which alone has hitherto been wrought, and I have every confidence in prophesying that on the south side we shall have a new and most valuable lode. The south wall of course runs for seven-eighths of a mile, the length of one set, and we now commence working upon it thoroughly from surface, where good ore was found, to the 70 tender adit. Everything on surface going on well, and we are dressing lead faster than for years.

WALKHAM UNITED.—W. Phillips, March 1: Good progress is making in the 32 cross-cut, to the north of the tin lode; the killas, or clay-slate, at this point is of a most desirable character, and I have great hopes of cutting the lode rich at the intersection, which I hope will be effected some time in the present month. Good progress has also been made in the 20 cross-cut during the past week. The lode in the adit level east is fully 5 ft. wide, composed principally of munda and gossan—a splendid-looking lode, and is no doubt indicating a near approach to the deeper lode, which affords great encouragement for a vigorous prosecution of the deeper lode, the same as reported last week. The stamps are being kept going. West of the river the lode in the adit level is not taken down as I anticipated last week; it will be advantageous to continue dressing for some time, but it will be taken down in time for the next report; so far as it can be seen it looks promising. We shall commence calculating next week, and shall have another batch of tin prepared for the market next week.

WEST CARADON.—N. Richards, March 1: Vivian's lode in the midway level, driving west of Hallett's cross-course, over the 50, will yield fully 1 1/2 tons of copper ore per fathom in stop in the back of this level will yield 2 tons of ore per fathom. Two stopes in the back of the 33 on this lode will yield in the aggregate 2 1/2 tons of ore per fathom. Gilpin's lode in the adit level driving west of main cross-course, will yield about 1 ton of copper ore per fathom. A stop in the bottom of this level will yield 1 ton of ore per fathom. A stop in the back of this level will yield from 1 1/2 to 2 tons ore per fathom. It will be seen from the above the lode at this point has somewhat fallen off in kind in this district, and especially on this lode.

WEST CREBOR.—J. Andrews, March 1: The lode in the engine-shaft sinking below the 30 is about 1 ft. wide, composed of quartz, capel, munda, and a little yellow copper ore.

WEST DEVON GREAT CONSOLS.—George Rowe, March 1: Our progress in sinking the engine-shaft is very satisfactory and the lode improving in size and character, with fine stones of ore mixed with gossan, friable spar, and arsenical munda. The stratification is everything that can be desired for the production of rich quality copper ore.

WEST GODOLPHIN.—T. Hodge, Feb. 28: In the 80 west end the leading part of the lode is 15 in. wide, producing fair stamping work. In the 80 east end we have a wide lode, producing low-price tinstone. In the 70 east end the lode looks very promising, producing stamping work. The 70 west end produces occasional rich stones of tin. The 60 west end produces some good stones of copper ore and saving work for tin, worth 91. per fathom. The 50 west end is poor. The 70 south-east end, on the counter lode, is worth 81. per fathom. The 20, on Hope lode, is worth 81. per fathom. Surface work is going on regular and satisfactory.

WEST KITTY.—Wm. Vivian, March 2: In the 72 driving east the lode is worth 101. per fathom. In the 60 driving east the lode is worth 181. per fath. The stopes in the bottom of the 60 are worth 501. per fathom. In the 50, driving west of rise, the lode is worth 71. per fathom. Good progress is being made with the cross-cut driving south of engine-shaft; I hope to intersect the lode in about a month from this time. There is no change to notice in the 80 and 90 driving east since last week.

WEST PATLEY BRIDGE.—David Williams, March 2: The 56 north-west has been extended upon the lode during the past month 3 fms. 4 ft., and is now a total distance of 142 fms. 1 ft. 6 in. from the shaft. The lode here is about 2 ft. wide, carrying limsparr, barytes, with a mixture of lead ore. The winze below the level is down 18 ft.; the part of the lode carried in sinking is 2 ft. wide, of very congenial matrix, and producing 20 cwt. of lead ore per fathom. We have every indication of opening out here a good section of ore ground. We have two stopes in the back of the 20 fm. level at the No. 2 shaft wrought at 100s. per ton of pressed ore.

WEST PLORE.—Wm. Vivian, March 2: We continue to push on the cross-cut at the 30 with six men to intersect Wheel Kitty flat lode, driving at 111. per fathom. I expect to intersect the lode in about 3 or 4 fms. more driving.

WEST VOR AND LEEDS.—S. Harris, March 2: The adit level driving east of cross-cut on Sozen lode continues to improve as we extend east towards the Great Wheel Vor. Although only 25 fms. deep the lode is 5 ft. wide, well defined, and highly mineralised, with munda, copper, and tin in saving quantities. The bottom of the level indicates that we are driving over and near a large deposit of mineral, which would be a similar occurrence to that of the adjoining

mine—Great Wheel Vor—where this same lode was found very rich just below the adit level, and I have every confidence in such being the case here when developed.

WEST WHEEL PEEVOR.—W. T. White, James Pryor, Feb. 28: Although it is not the week for our reporting here, but we think it advisable to send the following short report. We are pleased to say on Saturday last we communicated the 43 cross-cut to the engine-shaft; this has now given us all necessary ventilation at this level, and we shall now with all speed make preparation for getting the cage to draw from this level, and also put in the tramroad for discharging the stuff. We sampled last week 105 tons of tinstuff, which realised 439s.

WEST WHEEL TOLGUS.—J. Gilbert, March 2: Richard's Shaft: The lode in the 105, driving west of shaft, is 5 ft. wide, and yielding 3 1/2 tons of good copper ore per fathom, but the ground is rather spare for driving; we expect it will soon improve, as all the water is now coming from the bottom of the end. The lode in the rise in the back of the 105, west of shaft, is 1 1/2 ft. wide, and yielding stones of copper ore. We are putting up this rise to more conveniently work some tribute ground in the bottom of the 95. The lode in the stop in the back of the 105, west of shaft, is 4 ft. wide, and yielding 2 1/2 tons of ore per fathom, worth 141. per fathom. In the 95 cross-cut, driving north of shaft, we have not yet discovered the north part of the lode, but the ground is now letting out some water, and looking congenial for copper ore. The lode in the 85, driving west of shaft, is 2 ft. wide, composed of spar and munda, and yielding some saving work for copper ore.

WHEEL BOYS.—W. T. White, Feb. 28: I cannot speak of any particular alteration since my last report. The lode in the 50 driving west is still producing rich quality ore; the lode is not large, being about 12 in. wide, but for this width is very good. The men engaged in clearing the deep adit level, south of Good Wheel Fortune shaft, are making fair progress; we are now into a dead choke, and are spilling through the same. I feel quite assured of opening up a good run of ore ground between the 50 and 60 on the copper lode referred to above, judging from the nature of the lode now opening up at the 50.

WHEEL CREBOR.—G. Rowe, H. Phillips, Feb. 28: The new engine-shaft is down 13 fms. 2 ft. below the 120, which is deep enough for 132 fm. level, with tip-plat below. The shaftmen will now be engaged in taking down the lode, and after this work is accomplished the drive of the 132, both east and west of shaft, will be resumed. The lode in the 120 east is 5 ft. wide, producing good stones of ore. The lode in the rise in back of the 120 is worth 151. per fth. The lode in the 108 east is without change. The ground in the 108 cross-cut north is impregnated with spar, spotted with munda, and a little stiffer for progress. The lode in the 98, driving west towards the new shaft, is 4 ft. wide, worth 151. per fathom. The lode in No. 2 stop, in back of the 108, is worth 451. per fth. No. 1 stop, in back of the 98, is worth 451. per fth. No. 2 stop, in back of same level (the 98) is worth 451. per fth. The adit level, in the 70 and 49, is without any appearance of the south part of the lode supposed to be in that direction.

WHEEL FORTUNE.—R. W. Dowling, C. W. Philp, March 1: During the past week the tributers have been engaged in getting their ore to surface and preparing it for sale. We have weighed off 100 tons arsenical munda, which, together with the 40 tons mentioned in last week's report, makes a total of 140 tons raised during the past month. We are awaiting the blast pipes from the foundry to complete the furnace for silver concentration.

WHEEL GEORGE.—Chas. Kneebone, March 2: The engineers are on the mine, and machinery will now be completed with all possible dispatch. Outside work is retarded by continued rains. Mine looking well inside.

WHEEL GRENVILLE.—T. Hodge, March 1: In the 190 east level we are still going through the lode, which is hard, producing low-price tinstone; the same remark will apply to the 175 east. Judging from the lode in the level above we believe the most productive part is standing north. The winze sinking below the 65 east level continues worth 201. per fathom for the part carried. In the other parts of the lode, the indications are of more considerable change, and the surface work is being pushed on with all dispatch. We have a lot of frame-work laid out, which will be fixed in the course of a week or two. We are also building another set of catch-pits for our slimes.

WHEEL JANE.—James Reed, March 1: Great Flat Lode: In the 60 cross-cut driving north, on the north part of the lode, it has a more promising appearance, containing more munda, with prlan heads and stones of tin; this cross-cut is extended north about 7 fms. 3 ft. In the deep adit cross-cut driving north, also on the north part of the lode, the indications are more favourable; the cross-cut is extended 5 fms. 3 ft. No. 1 stop in the back of level west from cross-cut is worth for tin 201. per fathom.—Ready Money Lode: The rise from the deep adit to the shallow level is communicated, and the men are now engaged driving the deep adit west from No. 2 cross-cut, where the lode is 2 1/2 ft. wide; worth for tin 51. per fathom. No. 1 stop, east from cross-cut and rise, at the shallow level, the lode is 6 ft. wide, and worth for tin 141. per fathom. No. 2 stop, west from cross-cut and rise, the lode is 3 ft. wide, and worth for tin 101. per fathom. We have now cut the Ready Money lode in the 16, driving south of Gilbert's shaft. We have put Great Duntan lode in good working order, where there are now four pairs of men working on tribute. Others are likely to follow. One of the new pulverisers is delivered on the mine, the other is daily expected, also the boiler. The little 9-in. cylinder engine is fixed in its place, and all haste is being made in laying down round buddies, &c. We expect to get the pulverisers to work in the course of three or four weeks, when our returns of tin will increase. I calculate our returns will be at least 15 tons per month, while the cost of the mine will be about 150s. per month less than at present.

WHEEL JEWELL.—J. Trengrove, March 1: In sinking the new shaft below the 40 we have communicated with the rise against it over the 50, and shall be drawing from this level at the very earliest moment. The driving of the 50 east was resumed on Monday last. In the 40 east, 12 fms. from shaft, the lode has much improved in size and character, the bearing part at present being from 2 to 3 ft. wide, and producing some excellent copper ore throughout with elvan ground. The lode in the 27 east, 10 fms. from shaft, is still disordered by elvan ground, and similar in every respect to the ground passed through in the 40 east. The winze below the 27, east of engine-shaft, is holed to the back over the 43, opening out two stopes, each producing 1 1/2 ton per fathom, of good quality copper ore. At the 50 and 40 also and 20 stopes in the tribute pitch producing an average from 1 1/2 to 2 tons of copper ore per fathom. On the 21st ult. we sampled 127 tons (computed) of copper ore.

WHEEL PEEVOR.—W. T. White, T. C. King, Feb. 28: Since we put the pole to work at the 90 we have had to put a portion of our shaftmen to do some necessary work for taking up the water and conveying it into the 90 distern to the pole, consequently up to the present we have not made all that progress in driving the cross-cut as we otherwise should have done. This work now being accomplished, the men are now driving with all speed for the lode at that level, which we hope to reach about the time of our next meeting, to be held in three weeks hence. The lode in the 90 driving west is improved during the past week, and is now producing some fine stones of tin independent of the smaller portions of the stuff; the lode is the full size of the end, and is worth about 131. per fathom. We now have available for stoping a good section of stoping ground in back of this level, which we have not yet commenced to take away. The lode in the 80 driving west is improving, now worth 151. per fathom. We have every reason to believe we have cut the middle lode in the 80 cross-cut north. We have cut into it about 12 in., and as far as seen it produces good work for tin; this is a very important point, inasmuch as it is in virgin ground, and will add considerably to the value of this very important lode. We cannot speak of any alteration elsewhere.

WHEEL RUSSIA AND CARDREW UNITED.—Joseph Pryor, March 2: Russia Lode: Setting Report: We have again resumed the driving of the 15 fm. level (under adit) west, by two men, at 61. 10s.; lode presenting a very kindly appearance. A winze to sink in the bottom of the 50 or deep adit level, by two men, at 81. 10s.; lode worth 71. per fathom. The 40 to drive east by four men, at 81. per fathom; lode worth 91. per fathom. Nos. 1 and 2 stopes, in the bottom of the 30 east, by four men, at 41. per fathom; lode worth in each 91. per fathom. The rise in the back of the 30 east, by four men, at 91.; lode worth 121. per fth. A stop in the back of this level, by four men, at 41.; lode worth 101. per fth. The 20 to drive west, by two men, at 81. 10s.; lode worth 71. per fathom. The 20 to drive west, by four men, at 51. 5s. per fathom; lode worth 151. per fathom. A stop in the back of the 20, by the men, at 21. 15s.; lode worth 101. per fathom. Cardrew Lode: The water is now in fork about 3 fms. under the 60, and the shaftmen are making preparations for fixing a set of bearers at this level; we propose to again resume the forking. About 180 fms. west at the 60 we have resumed a cross-cut north of the north tin lode, by six men, at 81. per fathom; this is a very important point, as in a few fathoms driving we hope to cut the Prussia lode. This will then prove that lode 60 fms. deeper and 100 fms. further west than any point yet seen. We have suspended for the time the driving of the 40 east on the tin branch, and put the men to assist in cutting down the engine-shaft, in which satisfactory progress is being made. We have not yet cut the Prussia lode in the 30 cross-cut north, but are daily expecting to do so, and judging from the beautiful channel of ground in the cross-cut, and the fact that the lode is evidently thrown more downright (which is a very favourable indication), we have every reason to expect that when intersected a good lode will be met with. The men having completed their contract of 28 fms., we have re-set them to continue same at 71. per fathom.

WHEEL SISTERS.—Wm. Rosewarne, March 1: Wheel Mary: The lode in the 230, west of Wheel Mary engine-shaft, is worth 81. per fathom. This end will be holed to the winze sinking below the 220, west of shaft, in about two weeks, when we shall be in a position to break an increased quantity of tinstuff. The lode in the 220, east of the intersection, west of Wheel Mary engine-shaft on north branch, is improving now, and is worth 61. per fathom. This is an important point, the engine-shaft being sunk to the 230. We shall commence driving on it there to prove its value. The lode in the winze sinking below the 220, west of Wheel Mary engine-shaft, is worth 81. per fathom. The lode in the 210, east of the intersection west of Wheel Mary engine-shaft, is worth 61. per fathom.—Treacorn Mine: The shaftmen have finished the pit at the 140 at Ambrose's engine-shaft, and will now put in pent-house preparatory to sinking the lode in the Hollow's Flat Road Shaft: The lode in the 130, east and west of shaft, is worth 101. per fathom. The skiproad is now completed to this level, and I have no doubt but that the driving of these levels will lay open valuable tin ground.—Fox's Shaft: The 190, west of Fox's shaft, is worth 61. per fathom. The 190, east of Fox's shaft, is worth 81. per fathom. The lode in the 50, east of Fox's shaft, is worth 61. per fathom. The lode in the 20, west of the cross-course at Fox's shaft on Crown Close lode,

be supplied on application to the India Office in London.

The Faure Electric Accumulator Company, with a capital of 1,000,000*l.*, in 80,000 shares of 10*l.* each, and 200,000 deferred shares of 1*l.* each, has been formed to acquire for 225,000*l.* (of which 25,000*l.* is taken in cash and the remainder in deferred shares) all the patents and processes now owned by the "Société La Force et La Lumière" for Great Britain and Ireland, the chief of these patents being for Faure's accumulator or secondary battery. The company has taken powers to do anything whatever, provided electricity be directly or indirectly related to or allied to, as ascertained by the directors, for 1,000,000*l.* worth of the 10*l.* shares, 100,000*l.* of the deferred shares being at the same time loaned to the vendors. The ordinary shares are entitled to a cumulative preferential dividend of 10 per cent. (with the right to further participation in surplus profits after the deferred shares have received a similar amount), and are to be repaid for, 1*l.* on application and 1*l.* on allotment, and the remainder not required, in calls of 1*l.* each, with 28 days' notice. A reserve fund of 100,000*l.* and the directors' fees are to be provided for before the profits are calculated. The company is empowered that, if the directors think fit, any of the electric energy generated may be stored and retained, or be re-distributed as required for the production of light and motive-power. The accumulator, indeed, bears the same relation to electric energy as the cistern to water, and the gasometer to gas. The light thus obtained is perfectly steady, and without glare, and its capacity of sub-division and storage has now been fully established. For successful and

economical application to the lighting of mines, houses, and railway trains, Faure's Accumulator offers the exceptional advantage that, in the event of temporary accident to, or stoppage of, the electric motor there is no danger of any extinction of the light. It is remarked that it is difficult to enumerate in a proper manner the uses to which Faure's Accumulator may eventually be applied, or to specify its limits to its usefulness, but one of the most important purposes to which it is immediately and advantageously applied is as a motive-power for tramways, and it is anticipated that the profits from this source alone will be considerable. The motive-power may further be at once equally advantageously employed in the working of fire-engines, hoists, cranes, sewing-machines, lathes, &c. In the opinion of men of science Faure's invention marks a new departure in the practical and economic application of electricity to industrial and domestic purposes, and will necessarily command general adoption. The prospectus will be found in another column, and the list of applications for shares closes on Monday for London, and on the following day for the country.

The Manitoba Land Company, with a capital of 200,000*l.* in shares of 10*l.* each, has been formed to deal in land in Manitoba and the North-West Territory of the Dominion of Canada. The prospectus states that the great future before this country is recognised, but its population is still so small, and the difficulties of transport there are so great that, although the land there has risen greatly in value during these last few years, still this rise is nothing to what must happen when the railways, now begun, have opened up the country, and the emigration, which until then is impossible on any large scale, spreads all over the "Fertile Belt." The valleys of the celebrated Red River and Saskatchewan and their affluents have undoubtedly the richest and deepest soil of any country in the world. Added to this, Manitoba has a climate cold in winter and warm in summer, admirably adapted for growing wheat; whilst the eastern slopes of the Rocky Mountains, with their milder climate, will afford abundant pasturage for immense herds of cattle. The wheat of Manitoba is the hardest wheat grown on the American Continent, and commands the highest price in consequence. There is an increasing demand for it in the United States for the purpose of seed, and for mixing with grain of inferior quality. The list of applications for shares closes to-morrow (Saturday) for town and country.

The Caloric Engine and Siren Fog Signals Company has been formed with a capital of 100,000*l.* in shares of 10*l.* each, to purchase for 65,000*l.* some patents belonging to Professor Holmes and Mr. Buckett. The prospectuses are being widely circulated by post, but it is not known what progress has been made towards filling the lists of applications for shares.

The Bordeaux Tramways and Omnibus Company report presented at the meeting on Wednesday was a very encouraging one. During the 14 months to the end of 1880 the total receipts were 84,875*l.*, and the expenses 73,811*l.*, profit 10,994*l.*; whilst in 1881 the receipts were 108,708*l.*, and the expenses 90,964*l.*, profit 17,744*l.*. After providing for depreciation fund and paying interim dividends there remained for distribution 6186*l.* to end of 1880, and 9128 to end of 1881. The dividends of 6*s.* per share on the preference shares for the six months to December was paid, and a dividend of 5*s.* per share free of income tax on the ordinary shares, was declared, leaving 1801*l.* to carry forward. The total length of single line constructed at the end of the year was about 32½ miles, of which about 28½ were being worked. There remained only 3½ miles to be constructed; the materials for these are on the ground, and the work is being rapidly pushed forward. The new stables and depots are practically finished, and the contract will be completed at an early date. The stud of horses has been materially increased both in number and value. During the year 133 horses were added to the stud, which on Dec. 31, 1881, numbered 1075, besides which 159 horses have been purchased to replace those that have died or become inefficient, the entire cost of which has been charged to revenue account.

Devon Great Consols, 8 to 8½, and in good demand, and it is remarked that there is a large number of shares to be delivered to purchasers who are unable to get them, and as much as 5*s.* per share has been given for the loan of shares for a fortnight. The mines are looking better, and sales of copper ores and make of arsenic gradually increasing, so that it is not unlikely with some important discoveries of ores being shortly made the shares may have a rapid advance ere long. The last month's sales of copper ores was about 2020*l.*

Devon Great United, 3 to 3½; the lode in Willesford's shaft, about 114 fms. deep, is producing some good quality copper and mundic ores.

Kit Hill Great Consols, 3 to 3½; the sinking of the shaft below the 62 is progressing well, and when this shaft is down to another level cross-cut will be put out by rock boring machinery to intersect side lodes as well as operate in driving west and west on the rich lodes of tin and copper near to the shafts, and in the mean time the Great Tunnel level will be pushed on with all expedition with rock boring machinery, which has been purchased.

Drakewalls United, 3 to 3½; the recent reports from these extensive mines show that the progress being made must be considered highly satisfactory, and in the course of a few months the shareholders will be able to see some results of what is now being done in the shape of increased sales of tin.

South Devon United Copper Mines, 1 to 1½, and reported to have been in demand. In another column will be found particulars of the meeting of shareholders on Wednesday, which, it will be seen passed off satisfactorily, and important discoveries of copper ore are considered near at hand. It is expected that the applications for shares of the new capital will be nearly double the amount to be allotted, and it is said that those who first apply will be regarded as having a somewhat prior claim to an allotment.

South Caradon Mine, 30 to 35, and appear scarce, owing, no doubt, to the unanimous way the meeting of shareholders passed off on Monday last in the reconstruction of this company from a Co.-book to a Limited Liability company of 100,000 shares of 1*l.* each. In another column will be found a very interesting account of the meeting of shareholders referred to. We shall in a future number give further particulars as to the construction, directors, officers, &c.

West Wheal Seton shares advanced to 15, 21 and appear scarce, the general feeling being that they will shortly attain more than double this figure if the important discoveries now being made continue, and it would appear that this is likely to be the case, inasmuch as a very rich lode of tin has been cut into in the shaft.

South Wheal Francis, 15 to 16; from the report of the agent, which appears elsewhere, it will be seen the mines are opening out well—one of the richest tin mines in the county of Cornwall.

Phoenix United, 2½ to 3, with scarcely anything doing in the shares, owing no doubt to what has recently been said with regard to the financial position of the company. A shareholder states that it is well known in Cornwall that there are a large number of shares in the hands of one family, who it is reported are desirous of selling, and that if this is so why, he asks, do they not sell a good interest to others, and then make a good call to place the financial matters in an undoubted position for the future, and by this means place new machinery and more rock borers to work, so as to open out more ground.

South Darren, 1 to 1½; the ordinary general meeting is fixed for Wednesday. The directors' report shows that during the financial year to Dec. 4, they sold 445 tons of lead ore for 6185*l.*, whilst in the previous year 530 tons fetched 8524*l.*, the price of ore being but 14*l.* 11*s.* 5*d.* a ton instead of 16*l.* 1*s.* 8*d.* Copper ore similarly declined from 4*l.* 10*s.* 4*d.* to 3*l.* 15*s.* 9*d.*. The worst appears, however, to have been passed, for whilst the loss on the first six months' working was 460*l.*, the second six months showed a profit of 263*l.*. On the whole, therefore, the directors think the result of the year's operations is not so unsatisfactory as might have been anticipated, seeing that the mine, which was very poor in the early part of the year, has been of late steadily improving; that the returns are maintained at 45 tons of lead ore per month, and at 45 tons of copper ore every three months, and that the appearance of the lodes at the deepest points justify the expectation that these periodical quantities of ore can be sent to market in the future; but whilst the price of lead and copper ores continues at its present low level, the directors regret to say no material amount of profit can be made unless the working expenses, and also the dues payable to Sir Pryse Pryse are materially reduced. The dues payable to Sir Pryse Pryse during the year 1881 amounted to 334*l.*, being 5 per cent. on the gross value of the ore raised, thus Sir Pryse Pryse receives a very handsome rental—something like fifty times more than the agricultural rental of the land—whilst the shareholders, in addition to getting no profit, have sunk their whole capital in developing the mine, which shows no immediate prospect of paying it back in dividends. The proceedings at the meeting will be fully reported in next week's Journal.

The Cambrian Mining Company held an extraordinary general meeting, convened by the liquidator, on Thursday, and in another column will be found the report of the proceedings furnished by Mr. Fell. The proceedings appear therefrom to have been somewhat irregular in character, and to have terminated in confusion. No notice of the meeting was forwarded to the *Mining Journal*, or a reporter would have been directed to attend.

Richmond, 11½ to 12; the usual telegram from the mines at Eureka, Nevada, states that the week's run was 825,000, from 526 tons of ore with one furnace. During the week the refinery produced doré bars, to the value of 23,000. The manager's report will be found in another column.

Ruby and Dunderberg, 1½ to 2; at the meeting held on Tuesday the issue of 23,300 new shares was confirmed, and it is stated that

letters of allotment and regret were posted next day. The report from the mines this week advises good progress in the development of the Dunderberg series, and the week's telegram to the directors reports the shipment of 32 tons first-class ore. Mr. Rueben Rickard will assume the superintendence of the mines on his arrival.

Kapanga, 3 to 3½; a telegram received during the week advises that gold is met with in driving the levels, and that the prospects remain good. In Lead Mine shares there has been very little business doing, but the few transactions which have taken place show rather an upward tendency in price than otherwise. At Van Consols and Glyn an important discovery is reported to have been made, which it is believed will place the concern in the same permanently profitable position that Van has long enjoyed. The report of Capt. Roach will be found in the usual place. Tankerville Great Consols are quoted 6*s.* 6*d.* to 8*s.* 6*d.*; from the manager's report it will be observed that the mines are gradually improving, and in the course of a few months some important discoveries of lead and blende are expected at each of the three extensive mines belonging to the company, which are only now being got underway to give increased returns of ores after having taken considerable time to get everything in order to effect this desirable object.

Roman Gravels, 9 to 9½; as will be seen by the report of the agents the mines continue to look well throughout the various operations.

Leadhills, 2½ to 2½; in another column will be found a satisfactory account of the half-yearly meeting of shareholders and the statement of the Chairman and managing director (Mr. Peter Watson) as to the progress being made towards a resumption of dividends. The shareholders are to be congratulated on having such a rich lead mine, brought about by the vigorous operations being carried on in its development and the sinking of three shafts all through the long depression which has existed for the last four or five years in the lead trade, and it is in consequence of this vigorous mode of development that the reserves of lead ore are now so very large, amounting, it is estimated, to about 130,000*l.* to 140,000*l.*, a state of things which but few lead mines in this country can boast of.

Van, 7½ to 8; the usual monthly report appears in another column. The sale on Thursday (200 tons lead and 100 tons blende) realised 2432*l.* 10*s.*

Goginan, 1½ to 1½; the manager's monthly report states that good progress is making in sinking the western shaft, and also in driving the 15 fm. level east of same, where the recent discoveries of rich ore were made, and it says the lode maintains its fine size and favourable character, and is yielding rich silver-lead ore. The discoveries at this point are considered an important feature, as a large extent of ore ground can be opened up in a short time. All other operations are stated to be going on well, and the new rock-drilling and other machinery working satisfactorily. A good parcel of dressed ore is accumulating, and sales will shortly commence. Frongoch, 2 to 3; during the past week this mine has sold 100 tons of blende at 2*l.* 15*s.*, 100 tons at 2*l.* 13*s.* 6*d.*, and 50 tons at 2*l.* 6*s.*. The latest report states that the mine is looking well, and that fresh discoveries of importance have been made in the shallow levels.

The Park End and New Fancy Collieries has just been inspected by Mr. M. Heslop, M.E., of Gresham House, whose report upon its prospects, which he considers very encouraging, will be found in another column. The whole of the operations at the mines are progressing satisfactorily, and Mr. Heslop estimates that 11,000*l.* per annum profit can be realised.

The Gawton Copper Mining Company, at their meeting on Thursday, appointed Mr. Edwin F. Colmer secretary, in place of Mr. James Hickey, deceased. Mr. Colmer has been for 14 years in the office as managing clerk to the late secretary, and his courtesy and attention to business has always been recognised by the shareholders who have been accustomed to visit the office.

At the Nouveau Monde Mortgage Company meeting of subscribers on Thursday (the company is formed to enable the Nouveau Monde Company to complete the purchase of property in Venezuela) it was announced by the Chairman that the share list had received a considerable accession of subscribers since the last meeting. Mr. John Taylor, who was present, stated that from conversations with Mr. Anthony, the manager of the mine, who is now in England, and from other sources of information, he was convinced it was one of the finest gold mining properties that his firm had ever had brought before them, which statement was fully endorsed by several gentlemen in the room who had obtained their information from independent sources. It was stated that Messrs. John Taylor and Sons were about to send out a circular to those who are interested with them in the Nouveau Monde Company, their friends expressing their opinion of the great value of the property.

The Central Wynaad Company have forwarded a circular to the shareholders, stating that the transfer of the property to the company is now being carried out in India, and by this time has probably been completed. In conclusion, the directors believe that the original conditions remain unchanged. The gold bearing quartz exists abundantly, and although exceedingly tedious delay has occurred in the preliminary operations, it will doubtless be profitably worked as it is in other countries. Nor is any reason known to the board why this company should not realise the favourable opinions which caused it to be founded.

The Wala Wynaad India Gold Mining Company petition to wind-up, presented by a shareholder, has been dismissed with costs. Mr. Justice Fry, in giving his decision, said that it did not appear that the petitioner, or those who supported him, attempted to avail themselves of the power given by the Companies' Act to take the sense of the shareholders at a special meeting, and, on the other hand, it appeared a small minority of the shareholders only supported the petition, while a very much larger number appeared by counsel and opposed it. With the question whether there had been any impropriety in bringing out the company he had nothing to do; the fact that there had been such impropriety would not take away the right of those who had embarked in the company to have it carried on.

Referring to the use of British machinery in Brazil, Mr. J. G. Cranston, of Newcastle-on-Tyne, writes that rapid progress is being made in driving the Caiaba tunnel at the St. John del Rey Gold Mine, Brazil. The tunnel forebreast is driving in hard tough killas, intermixed with quartz rock, and measures 7 ft. 6 in. by 10 ft. 6 in. at the face, and with Cranston's patent rock drill machinery has been driven 17½ fms. per month. The Chairman (Mr. John Hoskin) in his recent report to the directors of the company, states that the drill are doing excellent work, and that the progress is highly satisfactory. The progress made in driving this tunnel without the aid of machinery was 3½ to 4 fms. per month.

VAN CONSOLS AND GLYN.—The report of Capt. Roach, published in another column is highly encouraging, and the mine is in a most promising position; indeed, was never more so. He states that the lode at the 50, west of Murray's shaft, is 100 ft. wide, and on the south wall they have discovered a lead 6 ft. wide, and worth 30*l.* per cubic fathom. There appears to be every justification for anticipating that the Van Consols and Glyn will prove as permanent and as profitable as the Van itself, which has already returned the capital expended upon it more than six times over, 25*l.* 8*s.* having been received in dividends for each 4*l.* 5*s.* invested, and that the probability being that these dividends will continue for generations. Captain Roach says that he has every confidence in prophesying that on the south side they will have a new and most valuable mine. The south wall runs for ½ of a mile, the length of their sett, and they can, he says, commence working upon it thoroughly from surface, where good ore was found 70 fms. under a lit. Everything on surface is going on well, and they are dressing lead faster than for years. The shareholders may well be congratulated on their prospects.

DEVON FRIENDSHIP.—A report on Devon Friendship Mine by Capt. Daw, of the famous Bratsberg Mines, has just been issued to the shareholders. He expresses his satisfaction at finding in the 30 west under adit a good course of copper ore, which is of the same exceptionally rich character as the parallel productive lodes which have made Friendship Mine celebrated for the greater part of this century. He states that he was very favourably impressed with the appearance of the underground operations, which are laying open large reserves of ore, and that as soon as communication is effected between the 12 and 30 fm. levels there should be no difficulty in making largely increased returns. He concludes as follows:—"With magnificent water power available for all purposes, and more than equal to the utmost possible requirements of the workings, no matter how extensive they may hereafter prove, with practically unlimited quantities of arsenical and tin ores at surface and underground, with a lode of exceptionally rich copper ore already being worked, and a railway station less than half a mile from the works, and easy dues and a liberal lord, there can be no doubt in the mind of any practical miner that vigorous working is all that is necessary to bring Devon Friendship into the front rank of the great dividend mines of the country."

A good report from the resident agent will be found in the usual place. NORTHERN LEAD MINES.—There is a very important discovery at Brandon Walls, the lode in the 37 fm. level being valued at 20 cwt. of lead ore per fathom.

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20 East Lovell, 20s. 50 New W. Caradon, 3s 6d. 20 West Goldolphin, £2.
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By RICHARD MEADE,
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Notices to Correspondents

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

MOYENS DE PREVENIR LES EXPLOSIONS DANS LES MINES, PAR LEON LOURREE, INGENIEUR DES MINES, SHAERBUCK RUE VEITE, 181.—Will some correspondent oblige by giving name of publisher of the above work and price? Copies are required for a Government Office.

DEEP COAL WORKINGS.—"J. H. T." (Leeds).—In March, 1881, just six years after the ground was first broken, the Ashton Moss Colliery Company touched the Great Mine, a seam of coal 6 ft. thick, and lying at a depth of 895 yards from the surface, or 897 yards, including the seam itself. At a depth of 950 yards lies the Roger Mine, 4 ft. thick, and below this are supposed to exist several workable seams of coal, including the Black Mine and the Cannel Mine, both of which are got at Ashton. In comparison with other pits, the Ashton Moss Pit is the deepest in England. The sinkings and borings have penetrated to a depth of 1050 yards; the sinkings alone had reached 895 yards, and this was soon to be increased to 950 yards. The Astley Deep Pit at Dukinfield is about 686 yards deep, whilst the Rose Bridge Pit at Wigan and the Moss Pit, situated in the same locality, which have hitherto been reckoned the deepest in the country, extend to the depth of about 820 yards.

Received.—"J. E. F." (Denver).—"O. S."—"R. P."—"C. K."—"W. J. J."—"G. E." (Swansea).—"Shareholder" (South Wales Coal Company).—"Shareholder" (Olathe Silver Mining Company).—"Stannum."—"Constant Reader" (Bulth).

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, MARCH 4, 1882.

THE BORING FOR COAL NEAR GOOLE.

The importance of the search for coal which has been going on for some time past in the neighbourhood of Goole induced us a few days since to pay a visit to the place where the operations have been carried on. In the event of the expectations of Lord BEAUMONT being successful there would be opened out one of the largest and most valuable coal districts in the North of England, extending for miles in nearly all directions, besides being close to the two shipping ports of Goole and Hull, and intersected by the Hull and Barnsley Railway. According to the Royal Commission on Coal the place where the boring is proceeding, or at least near to it, is the eastern limit of the Yorkshire coal basin, so far as could be ascertained, but this view of course is hypothetical, and the extent and limit of the field, in the event of coal being found will have to be defined by working and trial borings. However, instead of the locale of operations being near to Goole, we found out after much trouble that it was within a couple of miles of the small town of Snaith, a pleasant walk from which along the bank of the River Aire brought us to the line of the Hull and Barnsley Railway, now in course of construction, and close to it were the upright poles connected with the boring appliances. Work had been standing for some time, and it appears that lately not much progress was made. This was caused by the first bore-hole, which had been sunk to a considerable depth, being abandoned, and operations commenced with a rather larger drill some few yards distance from the first one. The machinery and appliances are those patented by Col. BEAUMONT and Mr. APPELBY, and they do a large amount of work in a short time. The drill itself is simply a tube of bright steel scarcely 1 foot in depth and 9 inches in diameter. On the circle of the bottom rim there are fixed at regular intervals about 20 black diamonds, firmly set in the steel and slightly projecting. To this is affixed tubes from the surface as the tool descends. The engine goes at a rapid rate, so that there are many revolutions made in the course of a minute, the cores of strata being brought up in the most perfect manner and in quick succession. It seems that an inch per minute at least can be cut, but the drawback is the wearing away of the steel, which has to be frequently replaced, the diamonds being impervious to the attacks of the hardest strata, so that as far as rapidity at least is concerned the system of boring appears to have undoubted advantages. Some of the material gone through, judging from the debris around the place, appeared like ordinary sand, and this was connected with water, for we were told that such was the force of the water encountered that it sent the sand above the tubing at the surface, and that in considerable quantities. In the event of the coal being met with of course it will be necessary to make other bore-holes, so as to determine the dip of the measures. The great thing now, however, is to get through the measures and into the magnesian limestone, which will have to be gone through, but at what depth remains to be found out by means of the borer. The strata indeed appear to be somewhat peculiar; the country for a great distance around is nearly a level, and the line of railway which passes through it, and where the works are heaviest the formation is chalk, whilst five miles of it passes through the magnesian limestone, which is close to the surface. Where the limestone is found of course coal will also be met with, so that the prospects as regards the boring on the estate of Lord BEAUMONT certainly look most encouraging.

Judging from what was seen on the surface at the place where the search is being made the sands and marls should not be a particularly great thickness, and we were told that at no great distance from the bore-hole, the strata to a depth of from 200 to 300 ft. were gone through by hand boring, when the marls and sandstones were met with; these were evidently liassic. After these are gone through, of course, there are several other deposits before the limestone is reached, and these include the Permian rocks, in which are the upper and lower magnesian limestones and marls, red sandstones, conglomerates, breccia, &c. But in some instances it has been found that the Permian and triassic overlies only millstone grit and the Yoredale rocks, as was evidently the case when the coal sought for, but was not found, at Middlesborough, although the bore-hole went down 1800 ft., when at that depth the Permian magnesian limestone was not found. But there is no doubt of the limestone being found close to Goole, or rather all round the district of Hurst Courtney, the actual place where the boring is going on, and when it is met with the person in charge of the operations said it would be gone through more readily than the sandstone. As to the thickness, this can only be inferred from what is known of other districts. In Durham the limestone has been penetrated at several points, in some instances being found 500 ft. thick, and in its southern extension into Yorkshire a high authority states it must give rise in its progress to several vast coal-producing districts of large extent and capacity, and there is every reason to believe that one of these will be connected with the estate of Lord BEAUMONT. As to the thickness of the limestone in that locality, the nearest point where it has been estimated is at Byram Hall, which is about eight miles from where the boring is taking place, the direction from the former being due east; at that point it is 312 ft. thick, so that at the very most the formation at Hurst Courtney in all probability will be under 400 ft. in thickness.

But other strata below it are likely to be of a greater thickness than in the known coal fields of the West Riding, for the coal seams are found to dip eastward at a greater angle than the limestone itself. Taking the Midland coal field, of which Yorkshire forms the principal portion, it may be said the concealed coal fields are much larger than the visible ones, the former having 900 square miles of coal under Permian and New Red, giving 23,000,000,000 tons, at depths of less than 4000 ft., or two-fifths of the total quantity of coal in all the concealed fields. The quantity in the visible Midland field, however, was only estimated in 1871 at 18,172,000,000 tons. It will, therefore, be seen that the future of the coal at present concealed under the Permian and New Red must be a great one, and that the new district in the eastern part of the West Riding of Yorkshire is likely to play an important part in the raising of coal on a large scale at no distant date. We may say that the person in charge of the boring machine gave it as his opinion that coal would be reached at a depth of about 1000 ft. For our own part, however, we think it quite probable that the Shafton seam of coal will be found in the district where the boring is now taking place at a depth of from 1100 to 1200 feet, and the Barnsley seam—the one which it is intended to work—at a still further depth of from 900 to 950 ft. This would give the depth to the latter seam from 600 to 700 yards, and this is not now considered such an extraordinary depth for a shaft, for in Lancashire they are now working coal where the shafts are more than 900 yards deep. We hope, however, that success will be the result of the spirit shown by Lord BEAUMONT, who is certainly going to a great expense in solving a most important problem that is likely to be of the greatest possible advantage to many other landowners in the same part of the West Riding.

STEEL IN THE UNITED STATES.

It appears that the aggregate production of Bessemer steel ingots in the United States in 1881 was 1,539,157 net tons, or 1,374,247 gross tons. The corresponding production in 1880 was 1,203,173 net tons; in 1879, 928,972 net tons; and in 1878, 732,226 net tons. The production of 1881 accordingly showed an increase, as compared with 1880, of 335,984 net tons, or 28 per cent. As compared with 1879 the production of 1881 further showed an increase of 610,185 net tons, or 66 per cent., and as compared with 1878, 806,931 tons, or 110 per cent. It will be interesting to recapitulate the production of Bessemer steel ingots in the United States in the ten years ending with 1881 inclusive. The figures come out as follows:—

Year.	Production.	Year.	Production.
1872	Tons 120,108	1877	Tons 560,587
1873	170,652	1878	732,226
1874	191,933	1879	928,972
1875	375,517	1880	1,203,173
1876	525,996	1881	1,539,157

Bessemer steel ingots were made last year by 13 American works; of these seven were situated in Pennsylvania. Two new works, both in Pennsylvania, turned out Bessemer steel in 1881 for the first time, and two new works are in course of erection. At the commencement of this year there were 31 Bessemer steel converters completed in the United States, and six more were building. Only 30 converters were in operation in 1881, so that the productive capacity of the United States as regards Bessemer steel is steadily increasing.

American makers of Bessemer steel rolled 1,253,129 net tons, or 1,118,865 gross tons of Bessemer steel rails in 1881. These figures do not, however, represent the whole production of Bessemer steel rails in the United States last year, as somewhere about 100,000 tons were also rolled by iron rail mills from imported blooms. The total production of Bessemer steel rails in the United States last year is estimated by another authority at 1,365,129 tons, an aggregate rather largely in excess of the 1,118,000 tons at which we have just arrived. The exact production of American Bessemer steel rails last year cannot be given until full statistical reports are received from the iron rail mills of the United States. For the present we give the following table, showing the American production of Bessemer steel rails in the United States in the ten years ending with 1881 inclusive, it being well understood that the figures for last year are subject to amendment until more precise information can be received:—

Year.	Production.	Year.	Production.
1872	Tons 94,070	1877	Tons 432,169
1873	129,015	1878	550,398
1874	144,944	1879	683,964
1875	290,863	1880	954,460
1876	412,461	1881	1,365,129

Whether the definitive production of Bessemer steel rails in the United States last year is found to be over or below 1,300,000 tons, there can be no doubt it was largely in excess of the corresponding production of previous years, and the substantial fact is undoubtedly established that in each of the ten years ending with 1881 inclusive the production made a steady progress. This remarkable result is due, first, to the activity which has been displayed in the construction of new American lines in the last three years; and, secondly, to the eagerness evinced by American railroad men to improve their permanent way by the substitution of steel rails for iron rails. As we have before observed, steel rails are a greater necessity in the United States than in Europe, in consequence of the extreme fluctuations and great severity of the American climate.

THE EMPLOYERS' LIABILITY ACT AMENDMENT ACT.

The above is the title of the bill recently introduced into the House of Commons by Mr. T. BURT, Mr. BROADBENT, Mr. O'CONNOR POWER, Mr. PEDDIE, and some other members. For all purposes it is sufficiently brief, and although some of the words are rather obscure, the measure is not one that is likely to meet with much, if any, opposition. It would also appear that existing arrangements are not to be disturbed, so that what was thought to be the sting of the measure has been really withdrawn. The principal part of the new measure has evidently been taken from the German Law of 1871, which we shall show hereafter. The first section—and there are only two sections in addition to the recital of the title—merely asserts that "All the provisions of the Employers' Liability Act, 1880, shall have effect and be enforced by every Court in every case, notwithstanding any contract or agreement excluding all or any of the provisions of the said Act, or otherwise interfering with the operation thereof: Provided (1) that this Act shall not affect any contract or agreement made before the passing of the Act." There the sub-section terminates, so that the men who have contracted themselves out of the Act are not to be meddled with, but no such freedom is to be given to workmen in the future. Sub-section 2 is framed on the German model, and is as follows:—

"That in determining in any case the amount of compensation payable under the said Act by an employer the Court shall take into consideration the value of any payment or contribution made by such employer to or for the injured person in respect of his injury, and also the value of any payment or contribution made by such employer to any insurance fund or compensation fund to the extent to which any person who would otherwise be entitled to any compensation under the said Act has actually received compensation out of such payment or contribution at the expense of such employer."

In the Law of the German Empire a person working in a mine is entitled to compensation from the party working such mine for any injury received if such originates with an authorised agent, or a person acting as manager, &c. Section 4 of the German Act tallies with that we have recited in the new Act. It is as follows:—

"If the killed or injured was insured against accident in an insurance office, miners' fund, miners' relief fund, miners' sickness fund, or any similar fund to which the owner also paid premiums or other contributions then the payments from the fund to the person entitled to relief are deducted from the compensation."

The owners are not allowed to contract themselves out of the liability. In Germany two years are allowed in which claims can be made, and a considerable amount of latitude is given to the Courts. In this direction also the new Bill seeks to obtain the same object by the second clause, which provides that:—

"An action shall not, except by consent, be removed into a superior Court under the sixth section of the principal Act unless the amount claimed exceeds 100*l*. The Court in which an action is commenced or is pending may at any stage of the proceedings amend any defect of a notice of injury or death, or direct that the action shall proceed and be maintainable, notwithstanding that such notice has not been given duly or at all, if the Court having regard to the circumstances of the case think just so to direct, and if it appears to the Court that within the time limited by the principal Act (1880) for giving such notice

the employer or his agent or representative had knowledge or notice of the occurrence of the accident, and of the fact that the workman was injured thereby, or that there was reasonable for such defect or omission."

The latter part of the section throws a heavy responsibility on the judges, who are far from desirous of an optional power, which, if exercised, may be looked upon as showing some slight bias in favour of one side. As it stands it would appear to favour the workman by making provision for omissions on the part of his advisers. There is certainly not a great deal in the measure as it stands, and anything new, as we have shown, is taken from our German friends, and anything questionable will be made with respect to the clauses is rather questionable, for there is not so much in it to which grave exception can well be taken, and if it satisfies Mr. BURT and his friends well and good.

INVESTMENTS AND INTEREST.

It may truly be said that capitalists naturally, and, perhaps, unintentionally, range themselves into classes. Apart from those who prefer "the glorious simplicity of the Three per Cents." there are those who seek a 5 per cent. security free from risk, and consequently involving little or no anxiety, and others, who having ample spare capital at their disposal, are quite willing to take the risk of embarking it where, although there may be loss, there are fair chances of returns of 20, 30, or even a larger percentage upon their outlay. This latter class, when ordinarily careful and well advised, frequently secure a good average interest for their money, but the risk and anxiety are of course considerable. Between the two classes mentioned come those who, whilst seeking something more than 5 per cent., are well contented with anything between that and 10 per cent., and to this class a table of "Specimen Investments for 1000*l*," just issued by Mr. William Abbott, of Tokenhouse-yard, will be particularly acceptable. He gives separate lists for 5 per cent., 6 per cent., and 8 per cent., the subjoined showing his selection for the current month:—

No. 1 to yield 5 per cent. :—			
	Amount.	Estimated Annual Div.	Dividends Payable
London and Westminster Bank Shares ..	£200	5 1/4	Jan. & July.
Great Western Railway ..	200	5 1/4	Jan. & July.
Grand Trunk Railway, 5 per ct. 1st Pref. ..	200	5	Feb. & Aug.
Mexican Railway, 8 per cent. 1st Pref. ..	200	5 1/4	Mar. & Sep.
Bordeaux Tramway, 5 per cent Pref.	200	5	Mar. & Sep.
£1,000 5 per cent.			
No. 2 to yield 6 per cent. :—			
Mexican Railway 6 per cent. 2nd Pref.	£200	6	May & Nov.
German Tramways ..	200	6	Feb. & Aug.
Lombardy Road Railways ..	200	6	Jan. & July.
Calais Tramways ..	200	6	Feb. & Aug.
Anglo-Argentine Tramway ..	200	6	Mar. & Sep.
£1,000 6 per cent.			
No. 3 to yield 8 per cent. :—			
Mexican Railway, Ordinary ..	£200	8	May & Nov.
East Argentine Railway, 1st Mortgage ..	200	7	June & Dec.
Rhymney Iron Debentures ..	200	6 3/4	Jan. & July.
Egyptian Unified ..	200	6 3/4	May & Nov.
La Plata Mining and Smelting Shares ..	200	11	Monthly.
£1,000 8 per cent.			

UNITED STATES OF COLOMBIA—THE GOLD MINES OF BARBACOAS.

The mineral resources of the State of Cauca, one of the United States of Colombia have several times been referred to in the *Mining Journal*, but hitherto comparatively little has been done to develop them. Attention is now directed to the value of the auriferous gravels in a letter by Mr. H. G. Taft, of Cucarachera, who states that having heard much of the richness of the bars and bed of the Yaculo he had a great desire to form a company to drain and work the Bend of that river; he, therefore, went from Barbacoas to Yaculo, in company with Mr. Con O'Neal, in June, 1878, to make an examination and to take measurements. The river is much larger than he expected to find, being from 50 to 75 ft. in width, with a very rapid current. The distance across the neck is 250 ft., but of this distance nearly one-third is a flat on the lower side of the neck which is lower than the river on the upper side, so that a tunnel of 150 to 175 ft. would pass the water of the river through and drain the whole Bend. The water on the lower side of the neck is 27 1/2 ft. lower than that of the upper side. From the narrowest part of the neck to the extreme end of Bend is 1200 ft., making something over half a mile of river bed that can be drained by cutting the neck. The height of the ridge at neck is about 40 ft. above the river on the upper side, and a tunnel as above will pass the river through; the tunnel will be through a soft bed rock—easily picked—and an open cut would be mostly composed of surface earth and caliche, carrying more or less gold, possibly enough to pay expenses of opening out the cut. After running the tunnel it would be necessary to open it out into an open cut to accommodate the large amount of water at the time of freshets. He adds that he has no doubt that this operation would pay immensely, and he states that before going to Yaculo he heard most glowing accounts of the richness of the bed of that stream. At a small bar at the lower side of neck a woman is said to have taken out in a short time 7 1/2 lbs. of gold, which she had made into jewellery and still retains. In conclusion, he remarks that being unable to raise the necessary funds he was forced to give up the undertaking, but that he did so much against his will.

It is generally admitted that the United States of Colombia is one of the richest countries of the world in gold mines. It was the El Dorado of the early Spaniards, whence they obtained their fabulous wealth that sustained their armies in early times, and made that country one of the powerful nations of the world. Her galleons laden with gold were the envy of other nations and the prey of the freebooter. Upon the invasion of this country by Pizarro he collected and sent to the home Government by the ship load the gold and golden ornaments robbed from the natives. The precious metal is widely diffused over the whole western slope of the Cordilleras. From its northern limit to its southern boundary gold abounds, and is daily extracted in larger or smaller quantities. Gold is found in abundance in the river beds, and several enterprises have been inaugurated to extract it by means of machinery, notable ones in this section of the country which have great hopes of success, but the great source of its golden wealth lies in its alluvial washings. These are in immense gravel banks and in the filled up channels of the ancient rivers, which in some parts can be traced for miles. The earth was formerly washed and the gold collected by slave labour, thousands of slaves being employed in that manner. In this section of Colombia the mining now is done by the liberated negroes and Indians. In the large majority of cases the negroes form a company of ten, twenty, or more in number, choose a head miner from one of their number, all working together, then rent some bank or mine on some of the estates, or rather work it on shares, giving the owner a certain per cent. of the gross products, generally a one-half part. But there are exceptions to this rule, many owners preferring to work their own mines and pay their labour by day or month. A notable case of this is Don Pablo Reynel, the energetic and enterprising owner of many mines, among which perhaps the most noted and valuable are the Paqui and Yaculo, which he is now working by day labour, and obtaining such results that he has no desire to adopt the half and half system, and which sustains their high reputation as gold producers.

The hills of the district are described as not high, but rather steep and covered with the unbroken forest of the South, with all its luxuriant undergrowth and hanging vines. Many of these hills are gold bearing of themselves, but lying between them occur extensive llanos or plains, which are gently rolling in character. These are the great gold bearing deposits of the country, and are apparently the courses of ancient rivers turned from their channels from some unknown cause, and in those parts where the currents of the rivers were favourable rich deposits are found, when the gold is taken out by the 100 lbs. Many such deposits have been opened up and worked here, and in one very noted instance where for 3 in. in thickness on the bedrock. As a matter of fact, it was nearly all gold, and is said to have yielded something over a ton in weight in gold. The

climate is not an unhealthy one; it is very moist and not over warm. The thermometer ranges from 72° to 85°, not varying much the whole year round. Rain is very plentiful, averaging nearly 300 in. per annum. Mining can be carried on all the year round, the rain furnishing sufficient water, preserved by means of ample reservoirs. The wages of the country are very reasonable. The religion is Catholic, but the Constitution guarantees freedom of worship of all sects. The Government is Republican in form and very liberal in character, and the Government as well as the people are very kindly disposed towards foreigners, and desirous of their settlement in this country. What is most needed to develop and advance the immense mineral wealth of the State is the advent of men of energy with small capital. An immense capital, such as is needed to carry on a mining enterprise in Nevada, California, or the Western Territories, is not needed, but only sufficient to build new reservoirs, new ditches, and deeper flumes. A reservoir costing \$10,000 is unknown here, and a ditch of two or three miles in length would be an immense undertaking. The natives work those parts where nature has placed the water and the gold, that the one can be easily and cheaply used to extract the other; but where much labour and expense are required, the ground is yet virgin, and there is an abundance of such ground here, and any reasonable arrangements, either to rent or purchase, can easily be made with the generosity of the owners for working these grounds.

THE GOLD FIELDS OF WEST AFRICA.

That the West Coast of Africa is to be the future Eldorado seems from information received therefrom, likely to be a *fait accompli* at no very remote period. Each fresh piece of information which comes forward from that region goes to strengthen the conviction which has lately gained ground, "that here lie hidden great stores of the auriferous metal, only waiting the skill and patience of man to unearth." This information is furnished by men of position and ability to judge, who are on the spot, and whose practical knowledge is worth the opinion of a thousand theorists. No discouraging accounts have come to hand; two new undertakings—the Gold Coast Company and the Effuents—have quantities of ore on the surface, evincing much richness, and some actual bullion is now on the way home from the latter company's mine; the managers of both these undertakings sending most cheering information as to their prospects. There is no doubt that the great difficulty to be overcome is the proper working of the mines and effectual crushing of the quartz, and there is no reason, provided that due care be taken in selecting the proper men for the grinding operations and the proper machinery, which must be strong but comparatively light for crushing the ore, why the various energies now concentrating on the West Coast of Africa should not meet with a result even exceeding the expectations of those who have embarked in them. The directors of these undertakings cannot be too cautious in the various progressive steps of the work, and doubtless those now commencing will reap much benefit from the experience of those who have suffered from precipitancy; a little time spent at the beginning is time saved in the end, and the patience of shareholders is more certain of reward by a liberal exercise of that quality. The Chairman's remarks at the statutory meeting of the Guinea Coast Gold Mining Company, reported in another column, seems to show that the above is the spirit in which that company's directors intend to grapple with their task, and which intention it is confidently believed is the one most likely to lead to a speedy and valuable result.

COTTON POWDER COMPANY.—The annual meeting of shareholders was held at the company's offices on Feb. 16, Mr. R. H. Wallace Dunlop, C.B., presiding. The directors' report and the balance-sheet for the year 1881 were submitted. The Chairman, in moving the adoption of the report, said that the business of the company had largely increased during the past year, and the prospect for the current year was still more encouraging. A dividend on the A preference shares was declared, and the retiring directors, Commissary-General Gardiner and Colonel W. Nassau Lees, having been unanimously re-elected, the proceedings terminated with a vote of thanks to the Chairman and directors.

BOILER INSURANCE AND STEAM POWER COMPANY.—The annual meeting of this company was held on Monday, at the old Town Hall, Manchester. Mr. C. J. Galloway, Chairman of the board of directors, presided, and there was a large attendance of shareholders. The annual report, which was taken as read, stated that the business of the company has continued during the year in a satisfactory state, and the directors look forward with confidence to the future. As was mentioned in the report to the last annual meeting, the branch of the business relating to the assurance of engines has been gradually developed, and during the past half-year the insurance of workpeople under the Employers' Liability Act has been introduced as a branch of the company's business. The directors have reason to believe that with a careful selection of risks, it will prove a profitable branch of the company's business. The accounts, balanced to Dec. 31 last, after deducting all claims and expenses, and also providing for the interim dividend for the half-year ending June 30 last, showed a profit of a little over 12,000*l.*, which the directors recommended should be appropriated by the payment of a dividend of 10 per cent., and a bonus of 2*s.* per share for the half-year ending with December, which would absorb 7000*l.*; that a sum of 270*l.* should be written off for the preliminary expenses incurred in the re-formation of the company; that 250*l.* should be written off furniture and instruments account; and the balance, 4517*l.* 4*s.* be carried forward to the next account.—The Chairman moved the adoption of the report and statement of accounts. He stated that although the company had about 20,000 boilers under its charge, there had been during the past 12 months only one explosion of a small Cornish boiler. He thought this was exceedingly satisfactory. But explosions must occur, which the most careful examination could not prevent. They would have noticed with pleasure that within the past week the Boiler Explosions Prevention Bill, which had been agitated now for so long a period by Mr. Hugh Mason, M.P., the Chairman of the Manchester Steam Users' Association, had passed its second reading in the House of Commons, and had been sent to Committee. It would in all probability be somewhat altered in Committee, but not its leading provisions; and he thought they might all conclude that the passing of that measure would have a beneficial effect upon boiler insurance. Owners of boilers would be more careful and more anxious to have their boilers properly inspected by others than their own workmen. The report was adopted. Mr. T. Vickers, and Mr. J. Scarlett, the retiring directors, and Mr. Adam Murray, and Mr. J. Adamson, the auditors, were re-elected.

ANGLO-AMERICAN CLUB OF FREIBERG.—At a meeting of this club (composed of students attending the Royal Saxon School of Mines) it was determined that—Whereas, papers, reports, &c., relating to mining, in any of its branches, are of great value and assistance to the mining student, and would afford him an opportunity of learning the theories advanced by prominent mining engineers, be it resolved, that mining engineers, metallurgists, and all those engaged in mining (especially those who have studied in Freiberg) be most respectfully solicited to forward to the Anglo-American Club, Freiberg, Saxony, all such papers, reports, &c., as they may deem of interest. It was further resolved, that copies of these resolutions be forwarded to the *Mining Journal*, London, and to the Engineering and Mining Journal, New York, for publication, and to all mining engineers, metallurgists, and those engaged in mining. The carrying out of these resolutions was left to the committee, Messrs. E. H. Garthwaite, M.E., M. E. Clark, and C. H. Gibson.

HANDY SURVEYOR'S SCALE.—A neat and exceedingly compact set of scales—Bainbridge's Handy Surveyor's Scale—has just been issued at the Hardy Patent Pick Company's New Mining Tool Works, at Sheffield. The scale, which is printed on Bristol board 1-16 in. thick, is contained in a handsome little case 7½ in. long, 2 in. wide, and ¾ in. thick, so that it can be conveniently carried in the pocket or fastened on the field book. By making a slot 6 in. by ½ in. in the centre of the card eight distinct scales are given with the greatest

possible distinctness, embracing the 6 in. Ordnance scale, ditto in feet, the larger Ordnance scale, ditto in feet, and scales of two chains and three chains to the inch, with corresponding scales in feet. In addition to these there are a table giving the acreage per square inch for scales varying from 6 in. to 80 in. per mile, a table giving the tonnage price of coal at the various rental values per foot per acre, and though last not least, a table showing the weight in pounds per cubic foot of various metals, minerals, woods, liquids and gases. The scale is ingeniously arranged and admirably executed.

SOUND INVESTMENTS.

GRAND TRUNK RAILWAY OF CANADA.—All doubts as to the effect of the "war of rates" upon this property during the past half-year, when so many sensational reports prevailed, are now finally set at rest by the official announcement that the accounts will show the payment of the dividends on the First and Second Preferences in full. Those who sacrificed their stocks at the low prices to which they were forced under the influence of the organised attacks made upon them will now see how little reliance should have been placed upon the alarmist rumours which were so industriously circulated to frighten holders into selling to suit the exigencies of speculators for the fall. The mere fact of the Grand Trunk having suffered comparatively so little during such a very trying period affords evidence of the inherent soundness of the undertaking and of its capabilities under ordinary conditions. With the removal of the disturbing forces which have been at work there is every reason why the railway should now steadily advance in prosperity, and I confidently believe that it will do so. The development of the Chicago Extension is very remarkable, the weekly traffics showing great increases, pointing, no doubt, to the early realisation of Mr. Hickson's estimate of doubling the earnings of that portion of the system. Such an event cannot happen without concurrent benefits to the main line. The recent settlement with the Dutch holders of Income bonds in this Chicago Extension, and by which they have agreed to provide a further sum of 200,000*l.* for completing the steel railing and increasing the equipment, is so favourable as to need no comment. Undoubtedly the poor harvest last year led to the railway war. This year the acreage of grain under cultivation is the largest ever known.

MEXICAN RAILWAY COMPANY.—These stocks have occupied a conspicuous and almost unique position during the past month, as, notwithstanding the universal depression, they have maintained a steady level of value. The development of the railway has been very remarkable since 1879, and the more fully and carefully its position and prospects are now studied, the more it appears that the improvement is one which will be fully maintained. Indeed, current events not only confirm such an opinion, but indicate a further rate of progress, and this is evidenced by one fact alone—that for the first eight weeks of this year the traffics show an increase of about 15,700*l.* in excess of the corresponding period of 1881, which resulted in a dividend of 8 per cent. on the ordinary stock. Mexico is now being vigorously opened out, the new lines which have been in course of construction for some time past having given an extraordinary impetus to the development of the country's vast resources. A great improvement in the general trade has naturally ensued, so that the earnings of this railway have latterly been benefited from normal sources rather than the carrying of material for the new lines. This is a point which cannot be urged too forcibly, that the traffic which follows the creation of new railways must (especially in such a rich country as Mexico) far outweigh the carriage of material for their construction. I have recently embodied my views in detail in a special letter to the proprietors. I confidently reiterate my opinion that these stocks are among the most attractive investments now offering—the 6 per Cent. Debentures, at 125, returning 4½ per cent.; the 8 per Cent. 1st Preference, at 134, 6 per cent.; the 6 per Cent. 2nd Preference, at 94, 6½ per cent.; and the Ordinary, at 90, from 8 to 9 per cent.

PHILADELPHIA AND READING RAILWAY.—In sympathy with the recent heavy fall in American securities the prices of these stocks have naturally participated, but there is really nothing in connection with the railway itself to warrant such a depreciation. Now that there is an end to the prolonged struggle for the Presidency the one depressing influence has been removed, and Mr. Gowen is free to carry out his plans for the restoration of the finances on a sound basis. The Court of Common Pleas in America has decided "the Deferred Income Bonds in their original form to be legal." In ordinary times this announcement would doubtless have caused an improvement in the quotation. Mr. Gowen is expected in England about the 25th instant. I understand that the final call of \$12 on the Deferred Bonds will be made payable at three intervals in amounts of \$2, \$5, and \$5.

NEW YORK, PENNSYLVANIA, AND OHIO RAILWAY.—The prospect of a change in the administration must be welcome to the long-suffering proprietors, who have seen their property depreciating in value year after year. While every railway in America has been making progress this has been degenerating, so that it is evident there is something radically wrong in the management. The trustees appear to be wedded to a policy of blind reliance upon the Erie, notwithstanding its unenviable notoriety.

The opportunity now offers of connecting with the New York Central and the Philadelphia and Reading, two of the most powerful corporations in the United States, presided over by Mr. Vanderbilt and Mr. Gowen, who are both of the highest standing and experience in the railway world. The suggested appointment of these two gentlemen in conjunction with Lord Bury and Mr. Martin, M.P., offers good assurance to the bondholders that their interest will be honestly protected.

GREAT EASTERN RAILWAY.—A very great success has attended the issue of the new ordinary capital, amounting to 1,076,920*l.*, at the price of 65*s.* This will not rank with the existing stock until after July, 1883, by which time the new extension to the north will doubtless have had time to develop. This new stock having attained to so high a premium as 3½ per cent. is of itself the most significant evidence of the favour with which the securities of this railway are now regarded by investors.

LONDON, CHATHAM, AND DOVER RAILWAY.—At the recent meeting the Chairman, as usual, entered very fully into the position of the undertaking, and expressed his opinion, "without a shadow of doubt," that "at the end of the next ten years we shall have a tangible and substantial improvement." For the past ten years the progress has been very steady, and since 1874, when I first recommended investments in these securities, the ordinary stock has advanced from 20 to 29½, and the preference from 60 to 103. It is surprising that the advocates of "fusion" should so persistently revive the worn-out subject at these meetings, when the test of absolute experience shows that instead of deriving any benefit this company would positively have lost in three-and-a-half years no less than 102,955*l.*, which sum would have been paid over to the South-Eastern Company.

CORNWALL MINERALS RAILWAY.—The valuable discoveries recently made in the Duchy and New Quay Mines are important to the interests of this railway, as promising a great increase to the mineral traffic. The receipts continue to improve, and there is reason to believe that the line is making such progress as will presently be reflected in enhanced quotations for the various stocks. At the meeting this week the Chairman stated that the scheme for reconstruction would shortly be submitted.

ISLE OF MAN RAILWAY.—The dividend for the past half-year, at the rate of 4 per cent. per annum, is generally regarded as satisfactory, considering the unsensational weather last autumn, which deprived the railway of a large proportion of its most profitable traffic.

GREAT WESTERN RAILWAY OF CANADA.—The policy which has animated the board of this railway in recent years in seeking American in preference to Canadian alliances has at last been confronted with a very serious difficulty in the collapse which has overtaken that system of American railways familiarly known under the mysterious title of the "vast Wabash." Despite all warnings the directors entered into the Wabash alliance, and the share-

holders endorsed their infatuated policy, though the terms of the agreement were never submitted for their consideration. The promises of enormous additions to traffic and other benefits have never yet been realised, and the only sense in which the term "vast" is applicable is in respect of the disappointment felt at the utter failure of the directors' predictions. How they will justify themselves when the meeting takes place next month remains to be seen, but that large section of the proprietors who were in favour of the more rational alliance with the Grand Trunk will require much fuller explanations than they have hitherto received.

HUDSON'S BAY.—There has lately been some excitement in the market for these shares (17½ paid), the price being carried as high as 37½. In order to stimulate buying various rumours, more or less absurd, were freely circulated to the effect that the value of the company's land had increased enormously, that the Canadians were buying, &c., &c. Canadians are not likely to buy land in the form of Hudson's Bay shares at inflated prices, when they can purchase direct from the Dominion Government, the Canadian Pacific, or the Northern Pacific Railways. The latter is offering land at a few shillings per acre on deferred payments. No doubt it is hoped that by putting up the price of Hudson's Bay shares, the proprietors may be induced to subscribe to the Canadian Pacific Land bonds, which are now ready for launching. I should advise English investors not to embark in any such enterprise.

TRAMWAYS.—Considering the extraordinary depression which has prevailed, a fair amount of business has been transacted in tramway securities during the past month; and while so many are paying very good dividends it is surprising that they do not receive even more attention. No doubt the non-success, so far, of some companies has exercised an adverse influence, though in each instance it would appear that special and uncontrollable causes have operated to prevent their profitable working. Misfortunes, however, are not peculiar to tramways, as in the history of every other form of enterprise similar experiences have been met with, and it would be considered unreasonable to discard good dividend-paying railway securities because here and there a line has been constructed that did not come up to expectations. As with certain railways, which have gone through early stages of vicissitude, and have afterwards proved profitable investments, so it is at least probable that the few non-dividend paying tramways may yet prove successes. An instance of this is afforded by the Swansea Tramway; a year or two since this was looked upon as perhaps the most hopeless, but it has just paid a second dividend of 2 per cent. Glasgow, which recently paid 10 per cent., only returned 3½ per cent. in 1876; while Provincial has advanced from 3 per cent. in 1879 to 7 per cent.; London from paying nil in 1880 to 5½ per cent.; Hull Tramways in February, 1880, paid nil, the last dividend was 3½ per cent. Many have been successes from the first, and this has been notably the case with foreign undertakings, such as the German, Bordeaux, Calais, Barcelona, and Tramways Union, all of which are, in my opinion, well worth buying. The 5 per cent. preference shares of the Bordeaux Company are a very first-class security, as they take precedence of 250,000*l.* of ordinary capital, upon which 5 per cent. dividends have been paid. The increase of traffics since Jan. 1 amounts to 2425*l.* The German shares are exceptionally cheap in view of the dividend yield, and the increase of traffics since January 1, amounting to no less than 3162*l.* There has lately been a demand for these shares from Germany.

CANADIAN COPPER AND SULPHUR COMPANY.—Official reports from Canada are most satisfactory. As the spring advances Captain Bennett hopes to materially increase the output of ores from the mines and the production of regulus from the smelting works, which are giving very good results. A contract for sale of a portion of the timber has already been concluded, and negotiations are now going on for the sale of a large quantity of the mundic as soon as the snow covering the heaps has melted.

ELECTRIC LIGHT COMPANIES.—The Electrical Exhibition, now open at the Crystal Palace, is naturally attracting much attention, with the result that it is regarded with almost universal favour. The success attending it cannot fail to enlarge the sphere of the existing companies' operations, as both for domestic and public purposes the light seems to answer every requirement. Doubtless the Exhibition will be visited by all the mayors and municipal authorities in England, who cannot fail to be struck by the superiority of the light to gas.

INDIAN GOLD MINES.—The recent circulars of the South Indian, Glenrock, Rhodes Reef, and Mysore Companies report favourable progress, and, in conjunction with the remarks of the chairman at the meetings of the South Indian and Glenrock Companies, they offer much encouragement to the shareholders, as the utmost confidence prevails both amongst the highly skilled representatives in India and the directors in England as to the success of gold mining enterprise in that country. I consider Glenrock, Phoenix, Trevelyan, Consolidated, Mysore, and Rhodes Reefs are well worth buying.

LA PLATA MINING AND SMELTING COMPANY.—The reports from the works at Leadville are becoming almost stereotyped in their uniformly favourable character, and it is evident from the weekly statements issued that this company has become firmly established as one of the largest and most important smelting industries in the very centre of the greatest silver and lead producing countries in the world. Possessing mines of immense value, and commanding so highly profitable a smelting business, this must prove a sound and progressive investment, and the worst that can be said of the shares is that they can now be bought to yield so high a return as from 11 per cent. to 12 per cent. The company is limited. By comparison with Rio Tinto (which is also a smelting and mining company) the La Plata shares are very cheap, for on the basis of the last two dividends of 12 per cent. they yield over 11 per cent. to a present investor, while Rio Tinto 104, paid at 25*l.* (only the last dividend being 12 per cent.), return but 4½ per cent. On the same basis La Plata shares should be quoted at 5*l.* A telegram from America states that the appointment of Mr. Rickard (the late manager of the Richmond Mine), to represent English shareholders at the works will be decided at the next board meeting. This gentleman's services will prove a great acquisition to the company, and give much confidence to investors in this country.

—From Mr. WM. ABBOTT'S Circular for March, 16, Tokenhouse Yard, London, E.C.

THE COAL AND IRON INDUSTRIES OF THE UNITED KINGDOM.

It has already been announced that an extension and elaboration of the interesting articles by Mr. Richard Meade, Assistant Keeper of Mining Records, on the Coal and Iron Industries of the Kingdom, which have been periodically published in the *Mining Journal* during the past seven or eight years, was about to be issued in the form of a volume by Messrs. Crosby Lockwood and Co., but it will surprise many to learn it comes forth as an exhaustive treatise upon the subject, occupying nearly 900 pages, and arranged in so admirable a manner as to be really a valuable work of reference. The coal industries and the iron industries are dealt with separately, the first part comprising 20 chapters, treating respectively of the coal-fields of Durham and Northumberland, of Yorkshire, of Cumberland and Westmoreland, of Lancashire, Cheshire, Derbyshire, Nottinghamshire, Leicestershire, Warwickshire, Shropshire, North Staffordshire, and South Staffordshire and Worcestershire. North Wales and South Wales are referred to in the 13th and following chapters, and these are succeeded by chapters on the Gloucestershire and the Bristol coalfields, and on the Devonshire coal and lignite deposits, the coal fields of Scotland and of Ireland, and a general summary completing the list. It is estimated that the areas of the coal fields of the United Kingdom is 7876 square miles. It appears that the total quantity of coal ascertained by the Royal Coal Commission as available for future use amounts in the aggregate to 146,180,285,398 tons, of which 90,207,285,398 tons exist at depths not exceeding 4000 ft. in known coal fields, and 56,273,000,000 tons as the probable amount of coal under Permian and other overlying formations, at depths of less than 4000 ft.; 40 per cent. being deducted for loss and other contingencies. With these available resources, and an output,

of nearly 147,000,000 tons, supplies are yet ensured for 920 years hence. The second part of the volume devoted to the iron industries is well introduced by a chapter on the mineralogical characters of the principal iron ores by Mr. Frank Rutley, F.G.S., and the several chapters are made to correspond as far as practicable with those in the first part. By way of appendix, Mr. Meade gives the iron ore production of the mines of the United Kingdom, and accounts of the purple ore obtained from metal extraction works, of the pig-iron manufacture and export, of the malleable ironworks, Bessemer steel works, Siemens open hearth steel works, and of the tin-plate manufacture, the whole being readily referred to by the aid of the excellent index which completes the book. The amount of labour which the preparation of the book has involved must have been enormous, but the result certainly well repays the author, and entitles him to cordial congratulations for having furnished a very complete account of two of our most important industries in a single and manageable volume. Mr. Meade certainly deserves an extensive circulation for his work, and will, doubtless, obtain it.

THE SOUBACK AND CATIR ALAN MINING COMPANY.

We draw the attention of our readers to the very satisfactory circular just issued by the Souback and Catir Alan Mining Company. Upwards of 2 ozs. of gold to the ton is without precedent, and when this result is obtained from bulk, not a mere sample, and without any rich ore, the mines promise to give very large dividends. "I am desired to inform you that the first 1½ ton of ore has arrived in Liverpool, and has been received by our agents, Messrs. Bramley Moore and Co. This is a portion of the first raising, and may be taken as an average of the ore, without addition of the rich ore referred to by Mr. Austin. After being crushed it was divided into two parcels of ½ ton each, and assayed as follows:—Lead, 12.5 per cent.; gold, 2.100 ozs.; silver, 35.600 ozs. Lead, 13.8 per cent.; gold, 2.400 ozs.; silver, 23.600 ozs. You will note it yielded over 2 ozs. of gold to the ton, besides lead and silver, and when it is borne in mind that the Don Pedro ore, which paid dividends of 100 per cent., did not average 1 oz. to the ton, and that the calculations on which the Indian gold mines are based is only ½ oz. to the ton, the directors consider the company has a brilliant future, irrespective of the rich ore. Mr. Austin will leave for the mines early in April with the re-quisite machinery for extracting the gold and silver on the spot. In the meantime shipments of ore will continue to be made.—E. STANLEY HAYMES, Secretary."—P.S. The rich ore referred to by Mr. Austin has not yet arrived.

THE FAURE ELECTRIC ACCUMULATOR COMPANY (LIMITED).

The LIST of APPLICATIONS for SHARES will CLOSE on MONDAY, the 6th inst., for LONDON, and TUESDAY, the 7th inst., for the COUNTRY.

By Order.

The Faure Electric Accumulator

COMPANY (LIMITED).

Incorporated under the Companies Acts, 1862 to 1880.

CAPITAL, £1,000,000, in 80,000 Ordinary Shares of £10 each, and 200,000 Deferred Shares of £1 each.

FIRST ISSUE, £500,000, in 40,000 Ordinary Shares of £10 each, and 100,000 Deferred Shares of £1 each.

Subscriptions are invited for the 40,000 Ordinary Shares of this Issue, entitled to a cumulative preferential dividend of 10 per cent. (with the right to further participation in profits as stated hereafter.)

Payable as follows:—£1 on application; £1 on allotment; the balance to be called up as required in amounts not exceeding £1, subject to twenty-eight days notice.

DIRECTORS.

Sir ARTHUR OTWAY, Bart., M.P., Director of the London, Brighton, and South Coast Railway Company—Chairman.
Sir CHARLES CLIFFORD, Chairman of the New Zealand Trust and Loan Company (Limited).
C. SEYMOUR GRENELL, Esq., Messrs. Pascoe, Grenell, and Sons, 27, Upper Thames Street, E.C.
SAM. MENDEL, Esq., Director of the Alliance Bank (Limited).
HARVEY RANKING, Esq., Messrs. John Ranking and Co., 11, St. Helen's Place, E.C.

CONSULTING ELECTRICAL ENGINEERS—Professor W. E. AYRTON, F.R.S., and M. CAMILLE ALPHONSE FAURE.

ELECTRICAL ENGINEER—RADCLIFFE WARD, Esq.

BANKERS—THE LONDON AND COUNTY BANKING COMPANY (Limited), 21, Lombard Street, E.C.

SOLICITORS—Messrs. FRESHFIELDS and WILLIAMS, 5, Bank Buildings, E.C.

BROKERS—Messrs. BRUNTON, BURKE, and CO., 18, Finch Lane, E.C.

AUDITORS—Messrs. TURQUAND, YOUNGS, and CO., 41, Coleman Street, E.C.

SECRETARY (pro tem.)—THOMAS E. YOUNG, Esq.

TEMPORARY OFFICES—ST. STEPHEN'S CHAMBERS, TELEGRAPH STREET, MOORGATE STREET, E.C.

PROSPECTUS.

This company has been established to acquire all the Patents and Processes now owned by the "Société La Force et La Lumière," for the United Kingdom of Great Britain and Ireland, the Channel Islands and the Isle of Man, under a contract, dated the 29th day of March, 1881, and made between Camille Alphonse Faure and the "Société Anonyme La Force et La Lumière," or which may hereafter be obtained by that society. The chief of these patents is Faure's Accumulator, or Secondary Battery, and the nature of the business which the company proposes to carry on is fully indicated by the Memorandum of Association, a copy of which is printed in the fold of this prospectus.

By means of Faure's Accumulators electric energy can be stored and retained, to be re-distributed as required for the production of light and motive power. The accumulator, indeed, bears the same relation to electric energy as the cistern to water, and the gasometer to gas. The light thus obtained is perfectly steady, and without glare, and its capability of sub-division and storage has now been fully established. For successful and economical application to the lighting of mines, houses and railway trains, Faure's Accumulator offers the exceptional advantage that, in the event of temporary accident to, or stoppage of the electric motors, there is no danger of any extinction of the light.

One of the sources from which it is confidently anticipated that this company will derive a considerable revenue is the lighting of railway carriages; to light them economically, as well as effectively, by electricity accumulators are absolutely necessary, as without accumulators the light would vary in intensity in proportion to the speed, and would be extinguished on the stoppage of the train. A brighter light can be obtained by means of Faure's accumulators than that at present found in railway carriages, and at a cost, including wear and tear and renewals of incandescent lamps, &c., considerably less. The light thus obtained is, indeed, vastly superior, as may be seen by an inspection of the Pullman car train, which has been running on the Brighton line during the last three months, lighted by electricity supplied by Faure's accumulators.

It is difficult to enumerate in a prospectus the ends to which Faure's accumulator may eventually be applied, or to fix limits to its usefulness, but one of the most important purposes to which it may be immediately and advantageously applied is as a motive power for tramcars. According to the published accounts of the tramway companies it may be deduced that the cost of working tramcars by electricity, in conjunction with Faure's accumulators, would show a large margin of saving over the present system, after making due allowance for all outgoings. It is anticipated that the profits from this source alone will be considerable.

The motive power may further be at once equally advantageously employed in the working of fire-engines, hoists, cranes, sewing machines, lathes, &c.

In the opinion of men of science Faure's invention marks a new departure in the practical and economic application of electricity to industrial and domestic purposes, and will necessarily command general adoption.

Sir William Thomson thus expressed himself about it in a letter to the Times:—

"The subject is one in which I feel intensely interested, seeing in it a realisation of the most ardently and unceasingly felt scientific aspiration of my life."

To an enquiry addressed to him subsequent to the opening of the Paris Electrical Exhibition, in the following terms:—

"Since the Faure battery has been known and described has there, to your knowledge, been any other battery discovered which in any way approaches, or can be held to be able to compete with it?"

Sir William Thomson replied:—

"No, I have heard of several other secondary batteries, but none of which approaches to the practical value of Faure's."

It is needless to say that the commercial field for an invention of such value is a wide one; so convinced, indeed, are the vendors of

the shares of this company will pay dividends at a high rate that they have agreed to take four-fifths of their nominal purchase money in deferred shares.

The price to be paid by this company for the purchase of Mr. Faure's and all other patents and processes now owned, or which may be obtained by the "Société La Force et La Lumière" for the United Kingdom of Great Britain and Ireland, the Channel Islands, and the Isle of Man, is the sum of £25,000 in cash, and 100,000 deferred shares of £1 each fully paid, and a like proportion of deferred shares in any further issue of capital which may be made by this company.

The net profits in each year (subject to the provisions of the Articles of Association for the establishment of a reserve fund and for the remuneration of the directors) are to be appropriated in the following order:—

First,—To a cumulative preferential dividend of 10 per cent. on amounts paid up on ordinary shares.

Secondly,—To a cumulative dividend of 10 per cent. on like proportions of deferred shares (such shares for purposes of dividends only being treated as having the same proportion paid up thereon as the ordinary shares).

And Thirdly,—One-half of surplus profits to dividends on ordinary and deferred shares, according to the amounts paid up or treated as paid up as above, and the other half to dividend on deferred shares only.

The vendors undertake to pay all the preliminary and other expenses of the company, including advertising, printing, and legal charges, up to and including the allotment of shares.

An agreement has been entered into dated the 15th day of February, 1882, between John Henry Johnson, of No. 47, Lincoln's Inn-fields, in the county of Middlesex, gentleman, of the first part; Camille Alphonse Faure, of No. 108, Boulevard Rochechouart, in the City of Paris, of the second part; and La Force et La Lumière a Société Anonyme, formed according to the law of Belgium, of the third part; and John Wiseman, of No. 12, Tressilian-road, New Cross, in the county of Kent, gentleman, of the fourth part.

The above agreement, together with the Memorandum and Articles of Association of the company, can be inspected at the offices of the solicitors of the company.

If no allotment be made the deposit will be returned forthwith without deduction. Should the shares allotted to any applicant be less than the number applied for the surplus paid on application will be credited in reduction of the amount payable on allotment.

Prospectuses and forms of application for shares can be obtained at the offices of the company, and from the bankers and brokers.

THE FAURE ELECTRIC ACCUMULATOR COMPANY (Limited).

FORM OF APPLICATION FOR SHARES.

(To be retained by the bankers.)

No.
To the Directors of the Faure Electric Accumulator Company (Limited).

Gentlemen,—Having paid to the bankers of the company, The London and County Banking Company (Limited), the sum of £ , being a deposit of £1 per share on ordinary shares of £10 each in your company, I request you will allot me that number upon the terms of the prospectus and the Memorandum and Articles of Association of the company, and I hereby agree to accept the said shares, or any smaller number that may be allotted to me, and to become a member of the company in respect thereof, and I hereby authorise you to place my name upon the register of members for the shares so allotted.

Name in full

Address

Occupation if any

Date

Signature

Registration of New Companies.

The following joint-stock companies have been duly registered:—

THE BRITANNIA STEAM SHIPPING COMPANY (Limited).—Capital 20,000£, in shares of 50£. The purchasing, owning, and working of said steamships. The subscribers (who take one share each) are—J. Wyrill, Scarborough; A. M. Cromack, Scarborough; T. Sampson, Scarborough; W. Hailstone, Scarborough; H. Wyatt, Scarborough; J. Dobby, Scarborough; G. J. Dale, Scarborough.

THE SIDMOUTH KNOWLE HOTEL AND BATHS COMPANY (Limited).—Capital 25,000£, in shares of 5£. To acquire land, erect, and conduct an hotel, &c., thereon. The subscribers are—W. G. Bartlett, Sidmouth, 30; F. H. Kekewich, Exeter, 30; H. H. Reach, 110, Cannon-street, 30; A. Besborough, 18, Abingdon-street, 10; J. Sutherland, 110, Cannon-street, 1; N. Bannatyne, 15, Earl's Court-square, 30; S. Botting, 17, St. Paul's-road, 1.

THE ULTRAMARINE BLUE COMPANY (Limited).—Capital 10,000£, in shares of 5£. To acquire and continue an established business situate at Lille, France. The subscribers (who take one share each) are—C. Langdon, 121, Highbury New Park; T. Wheeler, Streatham; M. Bradford, 70, Queen Victoria-street; A. Borisow, 26, Gibson-square; T. Prince, 10, King's-square; H. Kirby, Knarborough; T. Thursby, 70, Queen Victoria-street.

THE BRITISH BURMAH COLLIERY SYNDICATE (Limited).—Capital 10,000£, in shares of 10£. To carry on the business of colliery proprietors, coke manufacturers, and merchants, and ironmasters, miners, metallurgists, engineers, manufacturers of patent fuel, quarryowners, shipowners, and any other business approximating to the foregoing. The subscribers are—F. C. Knowles, Hyde, baronet, 1; J. B. Falvey, Turnham Green, merchant, 1; R. Overton, Walthamstow, author, 1; J. C. Lynch, 396, Strand, accountant, 1; A. E. Lewis, 8, Great Barlow-street, gentleman, 1; G. F. Adams, St. Pancras, gentleman, 1; J. B. Hocombe, Rugby Chambers, solicitor, 2. There are no Articles registered.

THE PUZZLE MINE (Limited).—Capital 200,000£, in shares of 1£. To purchase or otherwise acquire and work mines and minerals, mining rights, lands, hereditaments, and chattels in the United States, and in particular the property known as the Puzzle Mine, which is situate in County Dolores, State of Colorado, with all mills, out-houses, and other buildings and effects, and generally to carry on all operations connected with a mining company. The subscribers (who take one share each) are—J. Croyle, Sydenham, Australian agent; J. M. Stuart, 11, Queen Victoria-street, merchant; R. Bysan, 4, Grafton-street, M.D.; P. Tarbutt, 46, Queen Victoria-street, secretary; S. Green, 4, Chester-place, barrister; H. W. Lamb, Anerley, no occupation. The first directors are the following:—Messrs. Croyle, Stuart, Lamb, H. S. King, and W. E. Blakeney. Qualification 500 shares.

THE SOUTH HYLTON IRON AND STEEL COMPANY (Limited).—Capital 20,000£, in shares of 100£. To acquire the South Hylton Rolling-mills, near Sunderland, and continue the business connected therewith. The subscribers are—R. Richards, Sunderland, 5; R. Wilson, Sunderland, 5; A. T. Crow, Sunderland, 5; W. Beattie, Sunderland, 5; J. Grubb, 77, Dundas-street, 5; H. Pendland, Sunderland, 5; J. Prior, Monkwearmouth, 1.

THE CHESHIRE HYDRAULIC LIME, CEMENT, AND CONCRETE COMPANY (Limited).—Capital 30,000£, in shares of 5£. The business of lime burners, stone merchants, cement manufacturers, sand and clay merchants, &c. The subscribers (who take one share each) are—H. Y. D. Haydock, Liverpool; H. Scott, Sydenham; J. E. Pollock, Liverpool; T. E. Tomlinson, Liverpool; J. C. Sellar, Birkenhead; G. Clark, Birkenhead; G. S. Wright, Wallasey; J. Johnson, Liverpool.

THE PEN-Y-BRYN SLATE COMPANY (Limited).—Capital 20,000£, in shares of 50£. To acquire and work quarries, manufacturing selling, and generally dealing in slates, slabs, &c. The subscribers (who take one share each) are T. C. Smith, Hungerford; J. T. Kenaway, Ottery, St. Mary; W. A. Darbyshire, Carmarthen; T. W. Force, 25, Arundel-square; T. Chandler, Croydon; W. Edwards, 18, King-street; R. B. Budden, 15, Canonbury Park, N.

NEW FRONTIER AND BOLIVIA GOLD MINING COMPANY (Limited).—Capital 25,000£, in shares of 1£. To acquire by purchase, according to the terms of an agreement made between R. S. Archbold, of the one part, and J. M. Carey, as trustee for the company, the lands, mines, minerals, and other rights therein mentioned, also all buildings, materials, chattels, effects, &c., and which agreement refers to property situate in the United States of Colombia, South America, the consideration of such purchase being 1750£ and 600£ in cash, (payable by instalments), and 11,700£ in fully-paid up shares. To develop and work this or any other property coming into the possession of the company, and generally to carry on the business of gold mining in all branches. The subscribers (who take one share each) are—H. L. Matthews, 8, Wharfedale-court, stockbroker; J. C. Hacker, 8, Warrford-court, shareholder; W. Chamberlain, (Stock Exchange, shareholder); J. W. Skelton, 29, Martin's-lane, merchant; J. L. Auckland, 5, Warrford-court, merchant; W. Tregellas, 40, Bishopsgate-street, stock and shareholder; R. S. Archbold, 9, New Broad-street, merchant. The board of directors will consist of the following gentlemen:—T. E. Foakes, W. H. James, F. W. Haristher, and A. H. Stocker; qualification 300 shares.

THE DEMERARA AND BERBICE STEAMSHIP COMPANY (Limited).—Capital 100,000£, in shares of 20£. To carry on the business of a shipowner in all its branches. The subscribers (who take one share each) are—J. Darby, Church-court; W. Smith, 106, Leadenhall-street; J. A. Hanham, 9, Great St. Helen's-place; J. J. Darby, Church-court; A. D. Tower, Hull; W. P. Newman, 6, Dowgate Hill; J. H. Harrison, 106, Leadenhall-street.

THE FAURE ELECTRIC ACCUMULATOR COMPANY (Limited).—Capital 1,000,000£, in shares of 10£ and 1£. The business of electricians, mechanical and chemical engineers and workers. The subscribers (who take one share each) are—A. Otway, M.P., 13, Eaton-place; C. S. Greenfell, 27, Upper Thames-street; H. Ranking, 11, St. Helen's-place; S. Mendel, 43, Hill-street; C. Clifford, Cannon; E. H. Cadish, 2, East India-avenue; R. C. Tucker, 70, Lombard-street.

LA GUAYRA AND CARACAS RAILWAY COMPANY (Limited).—Capital 320,000£, in shares of 10£. To construct, maintain, and work a railway. The subscribers (who take one share each) are—C. Morrison, 53, Coleman-street; W. A. Pile, Philadelphia; N. C. Burch, 2, Walbrook; H. R. Shag, 26, Sackville-street; W. C. Quilter, 14, King's Arms-yard; J. Morris, 6, Old Jury; R. C. Shaw, 14, King's Arms-yard.

THE EASTBOURNE ELECTRIC LIGHT COMPANY (Limited).—Capital 50,000£, in shares of 10£. To provide said town with light and heat by means of electricity, &c. The subscribers are—G. Boulton, Eastbourne, 25; J. G. Langham, Eastbourne, 25; W. Routledge, Eastbourne, 29; J. A. Skinner, Eastbourne, 20; E. Diplock, Eastbourne, 25; H. Sutton, Eastbourne, 20; A. Hurst, Eastbourne, 20.

THE ANGLO-AMERICAN PATENT VULCANITE COMPANY (Limited).—Capital 40,000£, in shares of 10£. To acquire the lease of a factory at Edmonton and carry on the business connected therewith. The subscribers (who take one share each) are—R. C. Baxter, Reigate; R. A. Baxter, Reigate; P. Lawrence, 48, Farringdon-street; E. T. Marler, Dulwich; M. Smith, 48, Farringdon-street; J. C. Baxter, Reigate; R. Vogan, Reigate.

THE TUDICORIN COTTON PRESS COMPANY (Limited).—Capital 25,000£, in shares of 10£. Taking over and continuing the business of a company in liquidation. The subscribers (who take one share each) are—J. B. Alston, 22, Mining-lane; J. H. Hamilton, 22, Mining-lane; T. A. Williams, 22, Mining-lane; J. P. Alston, Glasgow; R. F. Alston, Glasgow; W. H. Alston, Glasgow; A. Armstrong, 22, Mining-lane.

AUSTRALIAN SHIPPING COMPANY (Limited).—Capital 250,000£, in shares of 10£. To carry on a shipowner's business in all branches. The subscribers are—T. Vosper, Liverpool, 500; W. Gracie, Liverpool, 500; E. A. Brazley, Liverpool, 500; H. H. Dixon, Liverpool, 200; A. Guthrie, Liverpool, 200; W. Inrie, Liverpool, 100; R. Cornelius, Liverpool, 100.

THE SULINA ELEVATOR COMPANY (Limited).—Capital 25,000£

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS &c
1, ST MICHAEL'S ALLEY CORNHILL, LONDON

Up till the beginning of the year 1863 West Chiverton was the property of a widow lady in London, whose husband, a solicitor, had worked it on his own account. Many years before this it had been introduced in London as Venton Gimps, and afterwards abandoned. It was adjoining the Cornubian Mine, which 40 years ago, under a "scrip" company—that is where shares passed from hand to hand without transfers—returned about 100,000*l.* worth of lead down to the 80 level, when it failed; this was also the property of the solicitor, and was afterwards called Wheal Chiverton. In March, 1863, the widow sold the property to some Cornish and London speculators for 30,000*l.*; these gentlemen cut off Wheal Chiverton for a separate company, and brought out West Chiverton, in 3000 shares of 10*l.* each, and issued them at 20*l.*; and before 1863 was half out the mine made 1000*l.* a month profit, and shares reached soon after 60*l.* each, or 180,000*l.* for the mine. It was very rich for some years, but failed in depth, as most lead mines in Cornwall have also failed so far.

The Caradon Hill is 1200 ft. above the level of the sea, and was a few years ago the centre of a vast mining population. On the south side was South Caradon, East Caradon, Hooper, West Caradon, Craddock Moor, Wheal Agar, Gonamena, Caradon Consols, and several others; on the north side Marke Valley, West Rose Downs, &c.; and it is a singular thing that while the ores on the south side have been remarkably rich those on the north side, especially at Marke Valley, have been throughout of poor quality—and this alone has militated against Marke Valley, for it has been very productive in ores of a low grade. It is an old story how the Clymors when they turned their attention to the south side of the hill, and discovered South Caradon, its riches were not believed in, and they offered half the mine in London (32 shares) at 5*l.* each, and that they were refused, and soon afterwards reached 2000*l.* each. In Mr. Watson's Cornish Notes, written on the spot in 1861, and published in the *Mining Journal* in June of that year, we read—"In very early times vast quantities of tin must have been raised by the ancients, as on both sides of the Caradon Hill and in the mines around there are old excavations everywhere. Wheal Jenkin (on the north side), now in the sett of West Rose Downs, was worked for tin about 30 years ago; but the price of tin not being more than half what it is now the mine was given up, and the Messrs. Clymo, who had worked it, turned their attention to the south side of the hill, and there opened the first rich copper mine in the district—South Caradon." Thus, it would seem that the Clymors when tin was low abandoned Wheal Jenkin on the north, and went in search of copper on the south, side of the hill, and succeeded admirably. Now that tin is high and copper low Marke Valley people, we hear, are about to try Wheal Jenkin for tin, and we hope they may succeed. There is no reason why tin should not be found to pay well in these moors. It was upon them that Mr. Watson also wrote in these Notes of 1861—"Particularly bleak and cold and dreary are the Cornish moors, and I do not suppose they were much warmer some 2000 or 3000 years ago, though we have no 'Notes' of that period to refer to. We do not know, however, that the inhabitants of those days had not any coal (neither was there Burton ale at Marke Valley), to warm their 'jackets,' if they had any, and to cook their mutton they used brushwood and turf from the moors. They also dug for peat, and in digging they were constantly finding a hard substance they did not understand the value of, and for which they had no uses. This was TIN. These ancient Cornishmen left the tin exposed, and successive floods washed it from the different lodes, and valuable deposits accumulated in brooks and rivers and other cavities on the moors, and for ages stream tin was held in the highest estimation. Some 500 years before the Christian era the Phœnicians landed on the coast, and in their rambles on the moors discovered the tin, of which they knew the value, and began to conduct mining operations upon something like a system, and to open out a commerce which has extended over the whole world," &c.

Here again it is somewhat singular that history should in a manner repeat itself. Our tin mines a few years ago were ruined through the discovery of tin chiefly found shallow, and in streams in Australia, and this was got cheaply and sent over as ballast in wool ships, to the detriment of English tin. This supply of stream tin exhausted the Australians, like the Phœnicians, must "mine" for more, and this they will find more tedious and expensive.

Kirkmichael has sampled 20 tons of lead ore.

The No. 5 at D'Eresby Mountain continues worth 5 tons of lead ore per fathom, and the ore seems to be dipping away south beyond the No. 6 end.

Aberllyn, Gwydwr Amalgamated is looking better.

Violet Seton is to be in 2000 shares only, and not 6000, as originally intended.

Wheal Peavor is looking better again, and the shares have had a fall of 20*l.* per share—equal to 60,000*l.*

We may refer to the matter fully next week, and show the actual losses the market has sustained by the forced sales referred to.

SOUTH AFRICA (KIMBERLEY) DIAMOND FIELDS.

INVESTORS desirous of getting AUTHENTIC and RELIABLE INFORMATION on the DIAMOND FIELDS in the above Region, can procure the same through the Agency of Mr. JOHN HOCKING, Engineer, Trewigle-road, Redruth.

MY SORE-COLAR GOLD MINES.—I hereby notify to the numerous enquirers respecting these Mines that I CANNOT UNDERTAKE to ANSWER 200 letters in one week without SOME REMUNERATION. In future all enquiries must be accompanied by the remittance of a fee to cover the time occupied in writing letters, and the postage.
CHARLES F. BRAY.
Late Manager Great Southern Mysore Mine.
16, Coxwell-road, Ladywood, Birmingham, Feb. 13, 1882.

ENGLISH CAPITALIST wishing a CORRECT REPORT on the SILVER MINES of COLORADO will do well to apply to—
Capt. DANIEL ROBERTS, Georgetown, Colorado.

LIEBIG'S EXTRACT OF MEAT AND MALT WINE
(COLEMAN'S).
A DELICIOUS BEVERAGE AND TONIC.

IMPORTANT TESTIMONIAL.

Queen's Crescent, Haverstock Hill,
London, March 5th, 1881.

DEAR SIR,—Some time since, being greatly fatigued with overwork and long hours at business, my health (being naturally delicate) became very indifferent. I lost all energy, strength, and appetite, and was so weak as to be scarcely able to walk.

As you are aware, I sent for a dozen of your Extract of Meat and Malt Wine, which, in a few days, pulled me up marvellously. Three or four glasses of it daily have quite altered and restored me to better health than ever, "without the assistance of a doctor."

I am now giving it to my son, twelve years of age, whom we have always thought consumptive, and from a puny ailing boy he seems to be fast growing into a strong healthy lad.

Enclosed you have cheque. Please send me two dozen of the "Extract." With thanks for your prompt attention to my last.

I am Sir, yours truly,

GEORGE A. TYLER.

Pints, 20*s.*; Quarts, 50*s.* per dozen. Carriage Paid to any Railway Station.

Sample Bottle sent for 2*s.* stamps.

Post-Office Orders and Cheques payable to—

COLEMAN AND CO.,

MUSPOLE STREET, NORWICH.

Sold by all Druggists in Bottles 2*s.* 6*d.* and 4*s.* 6*d.* each. Ask for Coleman's Liebig's Extract of Meat and Malt Wine, and "See that you get it."

In the High Court of Justice.—Chancery Division.

IN THE MATTER OF THE COMPANIES ACTS, 1862 AND 1867, AND IN THE MATTER OF THE HAVEN GOLD MINING COMPANY (LIMITED).

NOTICE IS HEREBY GIVEN, that the Vice-Chancellor Sir JAMES BACON has fixed FRIDAY, the 10th day of March, 1882, at Twelve o'clock at noon, at his Chambers in the Royal Courts of Justice, Strand, London, as the time and place, for the APPOINTMENT of an OFFICIAL LIQUIDATOR of the above-named company. E. LIONEL CLARKE, Chief Clerk.
BEALL AND CO., 42, Queen Victoria Street, E.C.C. Solicitors for the Petitioners and Provisional Official Liquidators.
Dated this 24th day of February, 1882.

TREBEIGH CONSOLS MINE,

In the Parish of St. Ives, about Three Miles from Liskeard.

MESSRS. SPEAR AND PALMER are instructed to SELL, BY PUBLIC AUCTION, on the above mine, on Tuesday, the 7th day of March next, at One o'clock precisely, the following

VALUABLE ENGINES AND OTHER MINING

MACHINERY AND EFFECTS, viz.:

ONE first-class 40 in. cylinder PUMPING ENGINE, with 12 ton boiler, steam pipes, and fittings.

ONE 12½ in. cylinder HORIZONTAL ENGINE, with link motion, hauling machine, and steam capstan attached.

Sixty feet shaft and pulleys, poppet head and pulleys, steel capstan and whim ropes, 30 fms. 14 in. plunger lift, 15 fms. 14 in. drawing lift, 2 in. bucket rods, sets off, bevils, yokes, staples and glands, ladders, dividing crab winches, chains, ironwork for balance bob, train wagon, rails, bellows, anvil, smith's tools, screwing gear, screw stocks, grindstone and frame, beam scales, stand and weights, steel borer, account house furniture, wood, carpenter's shop, smith's shop, account house, material house, and a variety of other effects.

The auctioneers respectfully invite the attention of ironfounders, mining agents, and others to the above-mentioned materials, which will be found to be in first-class condition, and affording a capital opportunity to those desirous of purchasing.

Catalogues on application to the Auctioneers. Refreshments at 12 o'clock.

Dated Callington, Feb. 21, 1882.

CARNARVONSHIRE.

VALUABLE LEAD AND METALLIC MINES, &c.

MESSRS. NORTON, TRIST, WATNEY, AND CO. are instructed TO OFFER FOR SALE, BY AUCTION, at the Mart, London, on Friday, March 17th, at Two o'clock precisely, the following VALUABLE PROPERTIES, all of which are situated in the parish of Llanengan, viz.:

The TAN-YR-ALLT LEAD MINE, granted to the Port Nigel Lead Company (Limited), by lease, for the term of 21 years from November, 1874, subject to the royalty of 1-15th, or the rent of £10 per annum if the royalty does not amount to so much.

The TYNNLAN MI held on lease for the term of 21 years from the 29th September, 1874, subject to the royalty of 1-15th.

The FREEHOLD MINES and MINERALS under Glyn-y-Morfa, and

FIVE FREEHOLD COTTAGES, together with the MACHINERY, PLANT, and effects thereon, necessary for working the mines and dressing ore.

Particulars may be obtained of W. T. WARD, Esq., Solicitor, 13, Finsbury Circus; and of the Auctioneers, 62, Old Broad-street, London, E.C.

WALES.

EXTENSIVE AND VALUABLE SLATE PROPERTIES, AND FREEHOLD AND LEASEHOLD LANDS, near Carnarvon, North Wales, with MACHINERY, PLANT, &c., FOR SALE.

Affording a most favourable opportunity to parties desiring to form a strong and successful Slate Company.

THE PROPERTIES are situated at BETTWS GARMON, in the parish of LLANWINDA, about five miles from the town and port of CARNARVON, and consist of—

Freehold Lands of Hafod-y-wern, about 353 ACRES.

Leasehold Crown Lands, being part of the Moel Tryfan Mountain, about 200 "

Total 553 "

The freehold lands are partly arable and partly pasture.

The slate rock crossing the property is nearly a mile in length and a quarter of a mile in breadth, and is part of the great Cambrian or Bangor slate range. It is successfully worked at closely adjoining quarries.

The slate is so situated that it can be worked in galleries, three of which have been already opened. Large sums of money have been expended in laying out a comprehensive and systematic plan for further operations.

There are suitable offices and workshops, machinery of the best description for sawing and dressing slates, with plant, wagons, rails, &c. There are suitable farm buildings, manager's house, terrace of workmen's houses, and cottages.

There is iron ore upon the property, and considerable portions of the freehold lands are available for building sites.

The leasehold property adjoins the freehold lands, and together they form one of the largest and best slate properties in North Wales.

The trunk road from Carnarvon to Beddgelert and the North Wales Narrow Gauge Railway pass through the freehold property. The Bettws Garmon Railway station is on the estate, and the quarries are connected therewith by railway, thus affording direct communication to all parts, either by the London and North-Western Railway or from the Port of Carnarvon.

Particulars and lithographed plans may be had from THOMAS BENNET CLARK, Chartered Accountant, 10, Castle-street, Edinburgh; MACANDREW and WRIGHT, Writers to the Signet, 13, Hill-street, Edinburgh; or Mr. MATTHEW WILSON, Gwrfal House, Wachenaur, Carnarvon.

Mr. Bennett Clark will receive offers up to 15th March, 1882, and Mr. Wilson will show the property to intending purchasers.

Edinburgh, 10, Castle-street, 8th February, 1882.

At GRANGEMOUTH, on FRIDAY, 24th March.

IMPORTANT SALE, BY AUCTION, OF CONTRACTORS'

PLANT, including—

40 6 ton PERMANENT WAGONS.

30 3 ton PERMANENT WAGONS.

150 3 ton SIDE AND END TIPPING EARTH WAGONS.

2 STEAM NAVVIES, by Rustin and Proctor.

11 in. and 12 in. LOCOMOTIVES, by Barclay, Kilmarnock.

20 h.p. SEMI-PORTABLE ENGINE and BOILER, by Marshall and Son.

Several PORTABLE ENGINES and BOILERS.

Hand and steam DERRICK CRANES, from 1½ to 3 tons.

Large quantity reliable RAILS, 75 lbs. per yard, Caledonian section, with chains, fish-plates, and spikes also.

STEEL and IRON F. B. RAILS, 41 lbs. per yard, with fish-plates and bolts.

Large quantities of SLEEPERS, cast and malleable SCRAP, and other valuable MATERIALS connected with a large contract.

The property of Messrs. CHARLES BRAND and Son, and sold owing to the completion of the New Docks Contract.

JAMES LAIRD has received instructions to SELL, as above, on FRIDAY, 24th March.

Further particulars in catalogues to be had one week prior, from Messrs. BRAND and Son; or from the Auctioneer.

26, West Nile-street, Glasgow, 1st March, 1882.

PYRITES, and other ORES, WANTED, containing SMALL

QUANTITIES OF SILVER and COPPER, but nearly or quite free from ARSENIC.

Address, "Niblo," MINING JOURNAL Office, 26, Fleet-street, E.C.

FOR SALE:—

ONE 50 inch and ONE 40 inch PUMPING ENGINES, with BOILERS and FITTINGS.

ONE 22 inch ROTARY ENGINE.

ONE 12½ inch HORIZONTAL ENGINE, with CAPSTAN and HAULING MACHINE attached.

All the above Engines are in first-class condition.

Several WATER-WHEELS, from 20 to 60 feet diameter. STAMPS' AXLES, and a large quantity of SECONDHAND MINING MATERIALS.

Apply to J. and H. PEARCE, TAVY IRONWORKS, TAVISTOCK.

FOR SALE, a 30 H.P. PORTABLE STEAM ENGINE; with

link-motion reversing gear, has drum and gearing complete for winding and pumping.

A 14 H.P. PORTABLE WINDING and PUMPING ENGINE.

Also a 6 H.P. PORTABLE HOISTING ENGINE.

Apply to—

BARROWS and STEWART, ENGINEERS, BANBURY.

ON SALE, NEW PAIR of 20 in. HORIZONTAL WINDING

ENGINES, 3 ft. 6 in. stroke, wrought iron cranks, crank shaft, 9½ in. diameter, 11 ft. 6 in. centres.

20 horse PORTABLE WINDING ENGINE, with two 10½ in. cylinders, link motion, and winding gear, drum 5 ft. 6 in. diameter, only worked a few weeks, and since been thoroughly overhauled by the makers; equal to new.

T. JOHNSON, 72, DICCONSON STREET, WIGAN.

SECOND-HAND, BUT EQUAL TO NEW:—

STEAM BOILERS.—Three first-class Boilers, 30 ft. by 7 ft., two flues, Galloway tubes in, and fittings, four years old, insured at 75 lbs. pressure. Will be sold cheap.

BOILERS.—Two Boilers, 20 ft. by 7 ft., two flues. Been working at 85 lbs. Price on rails, £130 each.

Other sizes of Boilers in stock, in excellent condition, 28 ft. by 7 ft., 24 ft. by 7 ft., 24 ft. by 6 ft., 20 ft. by 5 ft., 15 ft. by 5 ft., and 12 ft. by 5 ft. Safe for 65 and 80 lbs. pressure. Very cheap.

PUMPING ENGINES.—Beam and Horizontal. Diameters of cylinders, 100 in., 90 in., 85 in., 80 in., and 38 in. Very cheap.

WINDING ENGINES and COLLIERY PLANT of every description, second-hand, in stock.

H. HELLEWELL and CO., 4, NORTH CORRIDOR,

ROYAL EXCHANGE, MANCHESTER.

NOTICE TO COAL CONTRACTORS.

THE COMMISSIONERS OF IRISH LIGHTS hereby give notice that they are prepared to RECEIVE TENDERS for SUPPLYING COAL to the SEVERAL LIGHT-HOUSES round the COAST OF IRELAND.

Tender Forms, setting forth the quantity required at each Station, can be obtained on application to the undersigned at this office.

The best Scotch or Whitehaven coals are to be quoted for, and the Contractor whose Tender is accepted will be required to show proof that the coal is from the mine mentioned in his Tender.

It is optional for Contractors to Tender for supplying the entire or part of the Coast, but offers for supplying the entire will receive preference.

The Commissioners do not bind themselves to accept the lowest or any Tender.

Tenders will be received at this office on or before the 23rd March next, and are to be sent through post sealed, endorsed "Tenders for Coals," and addressed to the Secretary.

By Order, OWEN ARMSTRONG, Secretary.

Irish Lights Office, Dublin, 1st March, 1882.

TO COAL MERCHANTS.

THE COMMISSIONERS OF IRISH LIGHTS are prepared to RECEIVE TENDERS for the SUPPLY of the undermentioned quantities of GAS and FURNACE COAL.

The GAS COAL is to be either Lesmahagow, Nerquis, or Heywood Cannel, and the FURNACE COAL may be either Whitehaven Slack, House Coal, dross (suitable for banking purposes), or Coking Coal, Breeze.

The Coal is to be delivered into the Store at each Lighthouse before the 1st June next, and each Lighthouse must be provided with a separate Bill of Lading:—Poor Head, Co. Cork, 25 tons Breeze; St. John's Point, Co. Down, 20 tons Cannel, 15 tons Breeze; Rockabill, Skerries, Co. Dublin, 20 tons Cannel, 12 tons Breeze; Howth Bailey, Hill of Howth, Co. Dublin, 50 tons Cannel, 74 tons Breeze; Wicklow Head, Wicklow, 25 tons Cannel, 30 tons Breeze; Hook Tower, Hook Point, Co. Wexford, 35 tons Cannel, 25 tons Breeze; Minehead, Ring Pier, Dungarvan Bay, Co. Waterford, 27 tons Cannel, 15 tons Breeze; Galleyhead, Clonakilty, Co. Cork, 46 tons Cannel, 46 tons Breeze.

Tenders to be delivered through post (prepaid), sealed, and addressed to the Secretary, on or before the 23rd March next, and are to be endorsed "Tender for Gas Coal."

Parties may Tender for one or more or for the whole of these Lighthouses, but separate prices are to be quoted for each.

Forms of Tender will be supplied on application to the Secretary. The Commissioners do not bind themselves to accept the lowest or any Tender.

By Order, OWEN ARMSTRONG, Secretary.

Irish Lights Office, 1st March, 1882.

TO ROCK DRILL COMPANIES.

THE UNDERSIGNED will be prepared to enter into negotiations with Rock Drill Contractors with the object of having a SHAFT SUNK 25 fathoms (present depth about 15 fathoms from surface); size of shaft 10 feet by 6 feet. Machinery necessary could be brought by water within easy access of the mine.

Boring Machinery previously in use at another Mine.

Company to have option of purchase if mine (Tragh na mbán) turns out satisfactorily, of which there is every probability.

ROBERT CLOGG,

Secretary Berehaven Mining Company (Limited),

Allihies, Bantry, Co. Cork.

TO CAPITALISTS, AND PROMOTERS OF PUBLIC COMPANIES.

AN EXCELLENT OPPORTUNITY for TAKING ADVANTAGE

of the position and prospects of the METAL MARKETS and SLATE TRADES is afforded by acquiring an interest in—

A SILVER-LEAD SETT.

AN ANTIMONY AND SILVER-LEAD SETT.

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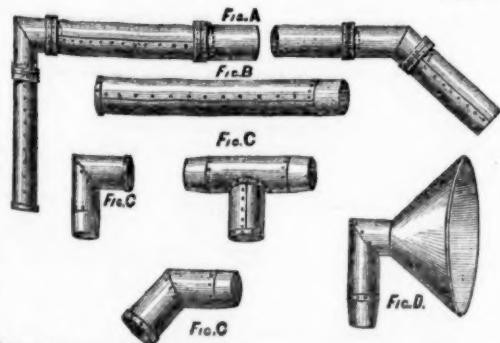
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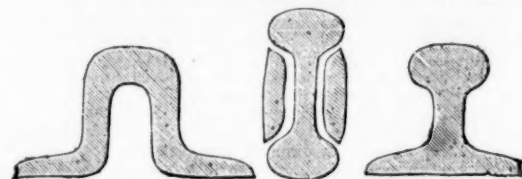
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Supplement, April 1, 1876, containing a report on property of the Maxwell Land
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BRITISH DIVIDEND MINES.									
Shares.	Divid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.			
3932 Blue Hills, t, c, St. Agnes	4	6	1 1/4	1 1/4	0 0	0 2	May 1881		
10000 Caron, t, Cardigan	2	0	0	0	0 0	0 0	Oct. 1878		
6000 Carn Brea, c, t, Illogan	9	7	11	21	19	21	Nov. 1881		
10240 Devon Gt. Consols, c, a, Tavistock	1	0	0	0	0 0	0 0	Dec. 1880		
4296 Dolcoath, c, t, Camborne	10	14	10	82	81 1/2	82 1/2	Feb. 1882		
6400 East Pool, t, c, Illogan	0	9	9	47	48	50	Feb. 1882		
12500 Frozeshaw, t, c, Cardigan (10000 sh. iss.)	2	0	0	0	0 0	0 0	Jan. 1882		
12000 Great Holway, t, c, Flintshire	5	0	0	0	0 0	0 0	Feb. 1882		
10000 Great Laxey, t, c, Isle of Man	4	0	0	0	0 0	0 0	Jan. 1882		
6400 Green Hurl, t, c, Durham	0	0	0	0	0 0	0 0	Dec. 1881		
20000 Groegynion, t, c, Cardigan	2	0	0	0	0 0	0 0	Dec. 1881		
10240 Gunnislake (Cliff), t, c	2	2	0	0	0 0	0 0	Mar. 1882		
2800 Isle of Man, t, c, Isle of Man	25	0	0	0	0 0	0 0	Sept. 1880		
20000 Leadhills, t, c, Lanarkshire	6	0	0	0	0 0	0 0	Mar. 1878		
430 Lisburne, t, c, Cardigan	18	15	0	0	0 0	0 0	Dec. 1881		
10000 Mellanor, c, Hayle	2	0	0	0	0 0	0 0	Feb. 1882		
9000 Miner Mining Co., t, c, Wrexham	5	0	0	0	0 0	0 0	Feb. 1882		
20000 Mining Co. of Ireland, c, t, c	7	0	0	0	0 0	0 0	Jan. 1880		
8000 Monks, c, Anglessea	5	0	0	0	0 0	0 0	July 1880		
11829 North Hendre, t, c, Wales	2	10	0	0	0 0	0 0	Nov. 1881		
8146 Ditto	1	5	0	0	0 0	0 0	Nov. 1881		
2000 North Levant, t, c, St. Just	13	6	0	0	0 0	0 0	Feb. 1881		
5000 Penhalls, t, c, St. Agnes	3	17	6	1	0 0	0 0	Jan. 1881		
6000 Pennant, t, c, North Wales	5	0	0	0	0 0	0 0	Mar. 1878		
12000 Phenix United, t, c, Link	6	0	0	0	0 0	0 0	Mar. 1880		
18000 Pr. Patrick, t, c, (iss. 12000 p. 10 p.c.)	1	0	0	0	0 0	0 0	July 1880		
10000 Red Rock, t, c, Cardigan	2	0	0	0	0 0	0 0	Jan. 1878		
12000 Roman Gravel, t, c, Salop	7	10	0	0	0 0	0 0	Dec. 1881		
4000 Rhyladun, t, c, Wales	10	0	0	0	0 0	0 0	Feb. 1882		
512 South Canford, t, c, Cleer	1	5	0	0	0 0	0 0	July 1880		
6123 South Condurow, t, c, Camborne	6	5	0	0	0 0	0 0	Jan. 1882		
9000 South Darren, t, c, Cardigan	1	10	0	0	0 0	0 0	Apr. 1880		
4500 South Wheel Franks, t, c, Illogan	7	12	4	0	0 0	0 0	Apr. 1880		
6000 Tincroft, t, c, Pool, Illogan	11	10	0	0	0 0	0 0	Dec. 1881		
15000 Van, t, c, Llanidloes	4	5	0	0	0 0	0 0	Jan. 1882		
3000 West Chiverton, t, c, Penzance	21	7	0	0	0 0	0 0	Feb. 1878		
12000 West Holway, t, c, Flintshire	1	0	0	0	0 0	0 0	Oct. 1881		
512 West Toleg, c, Redruth	25	0	0	0	0 0	0 0	Jan. 1879		
1200 West West Seton, c, Camborne	23	0	0	0	0 0	0 0	Apr. 1881		
6000 West Wasset, c, Illogan	7	0	4	14	13	14	Oct. 1881		
12000 Wheel Crebor, c, Tavistock	2	4	0	0	0 0	0 0	Feb. 1881		
1024 Wheel Eliza Consols, t, c, Austell	18	0	0	0	0 0	0 0	Aug. 1880		
15000 Wheel George, t, c, Carnarvon	1	0	0	0	0 0	0 0	Feb. 1882		
6000 Wheel Grenville, t, c, Camborne	15	0	0	0	0 0	0 0	Feb. 1882		
4295 Wheel Kitty, t, c, St. Agnes	5	4	0	0	0 0	0 0	Jan. 1881		
3000 Wheel Peavor, t, c, Redruth	7	11	0	0	0 0	0 0	Nov. 1881		

FOREIGN DIVIDEND MINES.

Shares.	Divid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.			
35500 Alamillos, t, Spain	2	0	0	0	0 0	0 0	Sept. 1881		
10000 Almaden and Tinto Consols, t, Spain	1	0	0	0	0 0	0 0	May 1876		
20000 Australian, c, South Australia	7	7	0	0	0 0	0 0	Aug. 1881		
15000 Birdseye Creek, c, California	4	0	0	0	0 0	0 0	June 1881		
20000 Cape Copper Mining, t, South Africa	7	0	0	0	0 0	0 0	Dec. 1881		
35000 Cesena Sulph. Co., Romagnola, Italy	10	0	0	0	0 0	0 0	Dec. 1881		
50000 Copiapo, c, Chile (E4 shares)	3	0	0	0	0 0	0 0	Aug. 1879		
70000 English & Australian, t, c, St. Aust.	2	10	0	0	0 0	0 0	Mar. 1882		
25000 Fortuna, t, Spain	2	0	0	0	0 0	0 0	Sept. 1881		
60000 Frontino & Bolivia, c, New Gran.	2	0	0	0	0 0	0 0	Jan. 1881		
20000 La Plata, t, Leadville	2	0	0	0	0 0	0 0	Mar. 1882		
15000 Llaneros, t, Spain	3	0	0	0	0 0	0 0	Sept. 1881		
60000 New Quebrada, c, Venezuela	5	0	0	0	0 0	0 0	July 1881		
1000 Ditto, Debutures	100	0	0	0	0 0	0 0	5 per cent.		
3000 Oregon, c, Oregon, U.S. (pref. sh.)	4	0	0	0	0 0	0 0	Dec. 1880		
50000 Panalillo, c, Chile	4	0	0	0	0 0	0 0	Oct. 1881		
25000 Pitangui, c, Brazil (in 6000 £1 pd.)	0	10	0	0	0 0	0 0	Sept. 1880		
10000 Pontigaud, t, France	20	0	0	0	0 0	0 0	Dec. 1881		
100000 Port Phillip, c, Clunes (E2 shares)	1	0	0	0	0 0	0 0	Feb. 1881		
50000 Rara Fortuna, c, Argent. Republic	1	0	0	0	0 0	0 0	Jan. 1882		
54000 Richmond Consol., c, Nevada	5	0	0	0	0 0	0 0	Feb. 1882		
24532 Rio Tinto, c, Mortgage Bds., Huelva	100	0	0	0	0 0	0 0	5 per cent.		
325000 Ditto, shares	10	0	0	0	0 0	0 0	July 1880		
40000 Santa Barbara, c, Brazil	0	10	0	0	0 0	0 0	Nov. 1880		
120000 Scottish-Australian Mining Co., t	1	0	0	0	0 0	0 0	June 1880		
80000 Ditto, New	0	10	0	0	0 0	0 0	Oct. 1881		
60000 Sentein, t, c, Arriege, France	1	0	0	0	0 0	0 0	Oct. 1881		
22500 Sierra Buttes, c, California	2	0	0	0	0 0	0 0	Jan. 1880		
40625 Ditto, Plumas Eureka	2	0	0	0	0 0	0 0	Apr. 1881		
100000 So. Indian, t, c, Madras (fully pd.)	1	0	0	0	0 0	0 0	Aug. 1881		
253000 St. John del Rey, t, c, Stock and multiples dealt in	185	195	0	0	0 0	0 0	5 p.c. for half-year, Dec. 1881		
92566 Tharsis, t, c, Spain (10000 sh. p. 10)	10	0	0	0	0 0	0 0	Feb. 1881		
20000 Tolima, t, c, Colombia	4	0	0	0	0 0	0 0	Oct. 1881		
10000 Victoria (London), c, Australia	1	0	0	0	0 0	0 0	Dec. 1881		
20000 Victorine (Nevada), t, c, Deb. Bds.	1	0	0	0	0 0	0 0	Sept. 1881		
15000 Western Andes, c, Colombia	5	0	0	0	0 0	0 0	Aug. 1880		
2100 W. Prussian (55000 pref. sh. £10 pd.)	10	0	0	0	0 0	0 0	Apr. 1881		

Have made calls since last dividend was paid.

NON-DIVIDEND BRITISH MINES.

Shares.	Divid.	Last wk.	Clos. pr.			
30000 Alston United, t, c, Cumberland	1	0	0	0 0	0 0	1 1/4
12000 Assheton, t, c, Carnarvonshire	0	0	0	0 0	0 0	1 1/4
11583 Bedford Unit, t, c, Tavis. (£1 lib.)	5	0	0	0 0	0 0	1 1/4
30000 Blackburnbanks & Gildersdale, t	0	0	0	0 0	0 0	1 1/4
2450 Bodidra, t, c, Denbighshire	1	0	0	0 0	0 0	1 1/4
30000 British, t, c, Wrexham	1	0	0	0 0	0 0	1 1/4
30000 Beuno Consols, t, c, Flintshire	1	0	0	0 0	0 0	1 1/4
30000 Bwch United, t, c, Cardigan	0	17	6	1 1/4	1 1/4	2
50000 Cambrian, t, c, Cardigan	2	0	0	0 0	0 0	1 1/4
50000 Carn Camborne, t, c, Camborne	1	0	0	0 0	0 0	1 1/4
20000 Carnarvon, t, c, Carnarvonshire	1	0	0	0 0	0 0	1 1/4
37500 Carnarvonshire Cons., t, c, Llanrwst	2	0	0	0 0	0 0	1 1/4
30000 Carnell Consols, t, c, Stephens	1	0	0	0 0	0 0	1 1/4
6000 Cathedral Cons., t, c, Gwynedd	0	13	0	0 0	0 0	1 1/4
20000 Central Foxdale, t, c, Isle of Man	1	17	6	2 1/4	2 1/4	1 1/4
25000 Coal-y-Fedw & Pant-y-Buarth, t	1	0	0	0 0	0 0	1 1/4
30000 Cook's Kitchen, t, c, Illogan	30	14	0	31	23	31
15500 Court Grange United, t, c	1	0	0	0 0	0 0	1 1/4
6400 Crook Burn, t, c, Cumberland	0	17	0	0 0	0 0	1 1/4
14000 Crosswood Mining Lands, t	1	0	0	0 0	0 0	1 1/4
20000 D'Eresby Mountain, t, c, Llanrwst	0	10	0	0 0	0 0	1 1/4
20000 Denbighshire Consolidated, t	3	0	0	0 0	0 0	1 1/4
12000 Derwent, t, c, Durham	4	0	0	0 0	0 0	1 1/4
50000 Devon, t, c, Tavistock	1	0	0	0 0	0 0	1 1/4
60000 Devonian Friendship, t, c, Tavistock	1	0	0	0 0	0 0	1 1/4
50000 Devon Great United (21 shares)	1	5	0	0 0	0 0	1 1/4
10000 Drakewalls, t, c, Cheltenham	0	15	0	0 0	0 0	1 1/4
10000 Dubby Syke, t, c, Durham	1	0	0	0 0	0 0	1 1/4
12000 East Blue Hills, t, c, St. Agnes	0	5	0	0 0	0 0	1 1/4
6000 East Botallack, t, c, St. Just	0	8	0	0 0	0 0	1 1/4
6144 East Caradon, t, c, Cleer	4	6	0	0 0	0 0	1 1/4
4000 East Chiverton, t, c, Penzance	10	7	0	0 0	0 0	1 1/4
30000 E. Craven Moor, t, c, Pateley Bridge	1	0	0	0 0	0 0	1 1/4
15000 East Devon Cons., t, c, Buckfastleigh	2	0	0	0 0	0 0	1 1/4
20000 East Herodford, t, c, Liskeard	1	0	0	0 0	0 0	1 1/4
20000 East Long Lake, t, c, Wales	1	0	0	0 0	0 0	1 1/4
21000 East Roman Gravel, t, c, Salop	0	15	0	0 0	0 0	1 1/4
18000 East Van, t, c, Llanidloes	5	0	0	0 0	0 0	1 1/4
2048 East Wheel Lovell, t, c, Helston	15	13	0	0 0	0 0	1 1/4
10000 East Wheel Rose, t, c, Newlyn East	0	17	0	0 0	0 0	1 1/4
12000 Gawton, t, c, Tavistock (21 shares)	1	16	0	0 0	0 0	1 1/4
40000 Glasg. Car., t, c, (30000 sh. 41 pd., 10000 15s. pd.)	4	0	0	0 0	0 0	1 1/4
14000 Glenroy, t, c, Isle of Man	0	4	0	0 0	0 0	1 1/4
30000 Gobbett, t, c, Dartmoor	1	0	0	0 0	0 0	1 1/4
10000 Goggin, t, c, Cardigan	1	0	0	0 0	0 0	1 1/4
32000 Goggin, t, c, Cardigan	1	0	0	0 0	0 0	1 1/4
25000 Goodveer, t, c, Cleer	1	0	0	0 0	0 0	1 1/4
8500 Gorse and Merlyn Cons., t, c, Flint	2	10	0	0 0	0 0	1 1/4
20000 Great Dylliff (10000 sh. issued)	1	0	0	0 0	0 0	1 1/4
100000 Great Polgoth United, t	1	0	0	0 0	0 0	1 1/4
6000 Great West Chiverton, t, c, St. Agnes	0	5	0	0 0	0 0	1 1/4
10000 Gwyn-y-Mynydd, t, c, Flint (pref.)	4	0	0	0 0	0 0	1 1/4
7000 Gwydyr Amal, t, c, Carnarvon	1	0	0	0 0	0 0	1 1/4
12000 Haselbeck, t, c, Liskeard	13	8	0	0 0	0 0	1 1/4
10000 Hingston Down, c, Calstock	0	12	0	0 0	0 0	1 1/4
20000 Kirkinichael, t, c, (20000 unissued)	1	0	0	0 0	0 0	1 1/4
6000 Killifreth, t, c, Chacewater	4	3	0	0 0	0 0	1 1/4
25000 Kit Hill Gt. Cons., t, c, (21 sh.)	0	15	0	0 0	0 0	1 1/4
15000 Lady Ann, t, c, Llananmawr	1	0	0	0 0	0 0	1 1/4
30000 Lady Ashburton, t, c, Callington	1	0	0	0 0	0 0	1 1/4
15000 Lady Bertha, t, c, Tavistock	1	0	0	0 0	0 0	1 1/4
25000 Langford, t, c, Callington	0	10	0	0 0	0 0	1 1/4
25000 Levant, t, c, St. Just	1	0	0	0 0	0 0	1 1/4